



ORIGINAL ARTICLE

Comparative analysis of unnatural deaths in Faisalabad during 2018-2022 – A raising trend.

Mobin Inam Pal¹, Saeed Akbar Tariq², Kishwar Naheed³, Ayesha Ayub⁴, Ehsan Ahmad⁵, Zunera Misbah⁶

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ABSTRACT... Objective: To assess the pattern of unnatural deaths in Faisalabad during the last five years, to determine the gender and age group mostly affected and to explore the increasing trend if any. **Study Design:** Retrospective Cross-sectional Descriptive study. **Setting:** Department of Forensic Medicine and Toxicology, Punjab Medical College, Faisalabad. **Period:** January 2018 to December 2022. **Methods:** Subjects of the study were victims of unnatural death in areas covered by Police stations where the postmortem was performed in the Mortuary of Punjab Medical College / Faisalabad Medical University. Data was collected from respective official Police records, FIRs and Postmortem reports and recorded on pre-structured proformas. It was categorized on the basis of manner of death, type of weapon involved, age groups involved and gender. **Results:** Out of a total of 1340 autopsies conducted, 1024(76.4%) were males and 316(23.6%) were females. The male to female ratio was 3.2:1. Majority of the victims belonged to the 30–39-year age group i.e. 338 (25.2%) followed by the 20-29-year age group with 333 (24.8%) cases. The manner of death was homicidal in 896(67%) cases followed by 320(24%) accidental and 77(6%) of suicide. Firearm was the most commonly used weapon claiming 490 (36.6%) lives followed by RTA with 254 (19%) cases. September was the month in which maximum cases were reported (140,10.4%). **Conclusion:** Males are the major victims of unnatural deaths, with firearm weapons claiming the majority of lives. There is a rising trend in the number of unnatural deaths as the years go by and strict measures need to be implemented to keep a check and balance on the availability and easy access to firearms and strict traffic rules should be implemented.

Key words: Asphyxia, Autopsy, Firearms, Manner of Death, RTA, Unnatural Deaths.

INTRODUCTION

The existence of all living beings has to come to an end at one time or the other. Life is dependent on the functioning and interlinkage of the three vital systems of the body i.e. The respiratory system, the nervous system and the circulatory system, the three forming the 'Bishop's tripod of life'.¹ Permanent and irreversible cessation of the physiological function of any one of these three systems shall result in the death of the individual. While most deaths occur by natural means like old age or disease, some individuals reach a tragic end due to suicide, murder or accident.

Suicide is a leading cause of death world-wide and when a person dies, the effects are felt by family, friends and the community at large. There are many factors that increase the circumstances

of suicide encompassing individual factors like history of depression, substance abuse to failure in relationships, community violence etc. to mention a few.² In Pakistan, between 15 to 35 people die by suicide every day, which is as high as one person killing himself every hour.³

Homicide or murder on the other hand, means killing of a person by another and according to a survey, the homicidal rate in Pakistan in 2021 was 3.98, a 6.48% increase from the previous year.⁴

Those deaths that are not intended (suicide), expected, or foreseeable (illness) fall under accidental deaths.⁵ Road traffic accidents take the lead in accidental deaths, killing nearly 1.35 million people worldwide each year, while 20-50 million suffer non-fatal injuries. A recent report

1. MBBS, MCPS (Forensic Med), Associate Professor Forensic Medicine, Faisalabad Medical University, Faisalabad.
2. MBBS, DMJ, Assistant Professor Forensic Medicine, Faisalabad Medical University, Faisalabad.
3. MBBS, MCPS (Forensic Med), Associate Professor Forensic Medicine, Faisalabad Medical University, Faisalabad.
4. MBBS, MME In-charge, HPERD, Faisalabad Medical University, Faisalabad.
5. MBBS, MCPS, (Forensic Med), Demonstrator, Faisalabad Medical University, Faisalabad.
6. MBBS, MCPS (Forensic Med), APWMO Forensic Medicine, Faisalabad Medical University, Faisalabad.

Correspondence Address:
Dr. Mobin Inam Pal
Department of Forensic Medicine
Faisalabad Medical University, Faisalabad.
mobdepal05@gmail.com

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from the department of sociology of Quaid-e-Azam University reveals that the country has witnessed an exponential rise in road accidents in 2022, the percentage flipping to 43% fatal and 57% non-fatal accidents.⁶ The causal factors include old and unmaintained cars, use of mobile phones, reckless driving, bad road conditions, etc.

METHODS

This Retrospective Cross-sectional Descriptive study was conducted at Department of Forensic Medicine and Toxicology, Punjab Medical College, Faisalabad, from January 2018 to December 2022. The study was approved by institutional ethical committee (No.48-ERC/FMU/2022-23/359).

After obtaining permission from the relevant authorities, data of victims of unnatural death in areas covered by Police stations where the postmortem was performed in the Mortuary of Punjab Medical College /Faisalabad Medical University was collected from respective official Police records, FIRs and Postmortem reports and recorded on pre-structured proformas. It was categorized on the basis of type of weapon involved, age groups involved, gender and month-wise number of cases.

The sample size was 1340 cases over a 5-year span using convenient sampling technique

Inclusion Criteria

- Both genders.
- All age groups.
- From the area of Police stations under the Department of Forensic Medicine, Punjab Medical college, Faisalabad.

Exclusion Criteria

- Individuals killed in Police encounters.

Data Analysis

SPSS version 12.0 was used to analyze the collected data.

RESULTS

The total number of unnatural deaths over the span of 5 years was 1340, with 248 (18.5%) cases

in 2018, 256 (19.10%) in 2019, 254 (18.95%) in 2020, 288 (21.49%) in 2021 and 294 (21.94%) in 2022.

During the 5-year span, there were 896(67%) homicidal cases, 320(24%) accidental and 77(6%) of suicide, while the manner of death remained undetermined in 28 (2%) of the cases and in 09(1%) cases, the individual died due to a disease process or was born preterm (Figure-1).

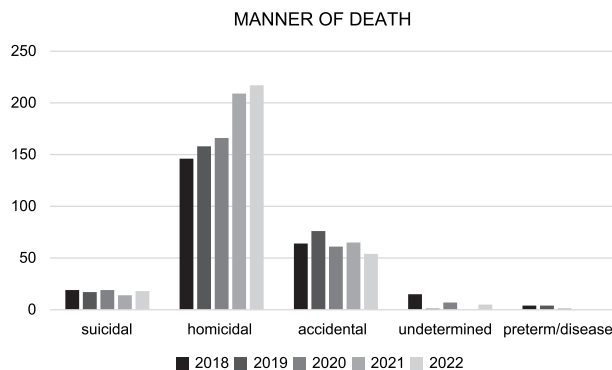


Figure-1. Manner of distribution in unnatural deaths from 2018-2022.

Regarding the gender, there were a total of 178 male cases and 70 female cases of unnatural deaths in 2018, 195 male and 61 females in 2019, 207 males and 47 females in 2020, 223 males in 2021 and 65 females and 221 males and 73 females in 2022. (Figure-2)

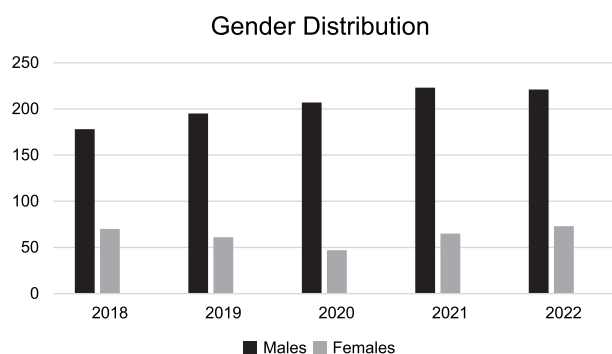


Figure-2. Gender distribution from 2018 TO 2022

Majority of the victims i.e. 338 (25.1%) were between 30 to 39 years of age, followed by the 20–29-year age group with 333 (24.%) cases. There were 84 fatalities in the age group of 0-9 years, 144 in the range of 10-19 years, 209 between 40-49 years (Table-I).

During the five-year span, firearm was the most commonly used weapon of offence, claiming 490 (36.6%) lives, followed by unnatural deaths due to road traffic accidents claiming 254 (19%) lives in a span of 5 years. Asphyxial deaths claimed 101 (7.5%) lives while deaths from injuries from blunt weapons were observed in 76 (5.7%) cases and those from sharp-edged weapons were 71 (5.3%) as depicted in Table-II.

The month-wise distribution of the casualties showed that the maximum number of unnatural deaths was reported in the month of September with 140 (10.4%) cases, followed by 125 cases (9.3%) each in May and June. The lowest number of fatalities was recorded in the month of March which was 93 (Table-III).

Age Group	2018	2019	2020	2021	2022	Total	Percent
0-9	20	13	17	18	16	84	6.3
10-19	30	28	26	25	35	144	10.7
20-29	58	55	65	81	74	333	24.9
30-39	63	61	53	84	77	338	25.1
40-49	33	40	45	45	46	209	15.6
50-59	26	35	27	18	26	132	9.9
60 & above	18	24	21	17	20	100	7.5
Total	248	256	254	288	294	1340	100

Table-I. Age distribution in unnatural deaths.

Weapon	2018	2019	2020	2021	2022	Total	Percent
Firearm	77	74	87	119	133	490	36.6
Sharp-edged	13	13	11	19	15	71	5.3
RTA	49	57	51	55	42	254	19
Blunt	14	20	13	10	19	76	5.7
Railway	02	04	02	02	01	11	0.8
Electrocution	03	03	00	03	01	10	0.8
Asphyxia	32	19	20	10	20	101	7.5
Drowning	05	05	01	02	03	16	1.2
Burn	10	00	08	05	08	31	2.3
Poisoning	24	56	53	63	47	243	18
Undetermined	15	01	07	00	05	28	2.1
Disease/Preterm	04	04	01	00	00	09	0.7
Total	248	256	254	288	294	1340	100

Table-II. Distribution of methods of unnatural deaths.

	2018	2019	2020	2021	2022	Total	Percent
January	18	15	25	17	22	97	7.2
February	26	26	23	18	21	114	8.5
March	22	17	18	20	16	93	6.9
April	24	21	24	24	26	119	8.9
May	19	25	24	29	28	125	9.3
June	22	22	24	30	27	125	9.3
July	17	27	18	28	27	117	8.7
August	18	23	18	18	32	108	8.1
September	21	31	26	32	30	140	10.4
October	17	16	13	23	25	94	7
November	17	12	25	29	21	104	7.9
December	28	21	16	20	19	104	7.9
	249	256	254	288	294	1340	100

Table-III. Month-wise unnatural death distribution.

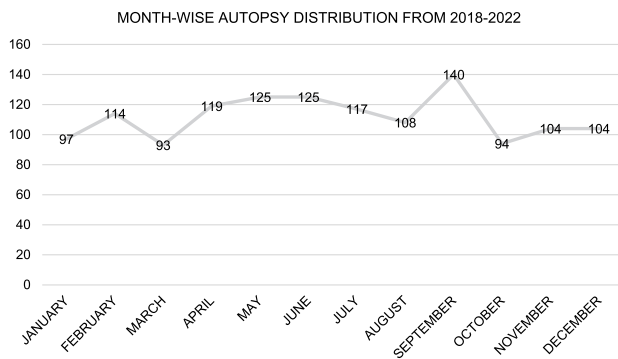


Figure-3. Total monthly distribution from 2018-2022

DISCUSSION

Unnatural deaths occur world-wide and is a key indicator of the mental and social health of the community.⁷

In this 5-year study, a total of 1340 cases presented to the postmortem unit of Faisalabad Medical University of which the majority of the cases were of homicide ie. 896(67%) followed by 320(24%) accidental and 77(6%) cases of suicide. This finding was in contrast to a study in Nepal⁸ where the majority of the cases were of suicide (53.06%) followed by Accidental deaths in 44.21% of the cases. However, our findings were similar to that in Southern Punjab⁹ and a previous study conducted in Faisalabad.¹⁰ On the other hand, Marri MZ et al observed that accidental deaths significantly predominated (48.73%) over homicidal deaths (30.25%) in Mardan.¹²

Regarding the gender distribution over the 5-years, 76.4% (1024) of the victims were males and 23.6% (316) were females making a 3.2:1 male to female ratio. This Male to female ratio was close to a study conducted in Nepal⁸ and Pakistan^{9,11,13} where the male to female ratio was 2.8:1, 3.7:1 and 2.5:1 respectively. However, the male to female ratio was quite higher in a study conducted by Marri MZ et al in Mardan¹² falling at 4.4:1 and Faisalabad¹⁰ at 4.1:1.

However, all studies show that males are more prone to unnatural deaths as compared to the opposite gender, which may be due to the fact that males are mostly burdened with the responsibility of earning for their families, unlike

most of the females in our cultural set-up who are house wives.¹⁴

Three hundred and thirty-eight (25.1%) of the victims belonged to the age group of 30- 39 years closely followed by 333 (24.9%) cases falling within the age group of 20- 29 years. There were 209 fatalities in the age group of 40-49 years accounting for 15.5% of the total number of unnatural deaths. This finding was similar to a case study done by Anjanamma et al in Karnataka¹⁵, with 48 cases in the age group 31- 40 years followed by the 21-30 years age group with 25 cases. In contrast, a 5-year study conducted in the Forensic Department of Sheikh Zaid Hospital, Lahore, from 2016- 2020 shows that the largest number of casualties fell within the 20–30-year age group (33%)¹⁶ and a similar result was shown by a study conducted in Mardan.¹²

As far as the weapon of offence was concerned, Firearms claimed the lives of 490 (36.6%) individuals followed by Road Traffic Accidents with 254 (19%) casualties. Firearm was also the most prevalent weapon of offence in a previous study conducted in Faisalabad by Qasim M et al¹³ and in Lahore by Tariq F et al.¹⁶ This finding was slightly different from that of Rasheed A et al¹¹ in Hyderabad and Marri MZ et al¹² in Mardan where Road traffic accidents claimed more lives as compared to firearms. Asphyxia, on the other hand, claimed 101 (0.08%) lives which included cases of smothering, hanging, manual and ligature strangulation.

One hundred and forty cases were reported in September, being the majority followed by 125 cases each in May and June. The lowest number of fatalities was recorded in the month of March which was 93. However, this was in contrast to a previous study in Faisalabad¹⁷ in which the month of March and April were the most sensitive months.

CONCLUSION

Males are the major victims of unnatural deaths, with firearm weapons claiming the majority of lives. There is a rising trend in the number of unnatural deaths as the years go by and strict

measures need to be implemented to keep a check and balance on the availability and easy access to firearms and strict traffic rules should be implemented.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

SOURCE OF FUNDING






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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Mobin Inam Pal	Main author, Collection & Processing data.	
2	Saeed Akbar Tariq	Supervision.	
3	Kishwar Naheed	Tabulation of results.	
4	Ayesha Ayub	Proof reading, Literature review & authentication of references.	
5	Ehsan Ahmad	Proof reading.	
6	Zunera Misbah	Proof reading.	