

# AUDIT OF AUTOPSIES 2016

## A RETROSPECTIVE, OBSERVATIONAL STUDY

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### ABSTRACT

**Objectives:** This is an audit of the total autopsies conducted in the study carried out in Forensic Medicine and Toxicology Department KEMU, Lahore from 1<sup>st</sup> January to 31<sup>st</sup> December 2016.

**Methodology:** The total number of autopsies conducted in the department were 785. All known and unknown cases were included. The data was classified according to age, gender as well as manner of death which includes homicide, suicide, accidental, natural deaths, deaths due to stillbirth and unascertained cases.

**Results:** Total number of dead bodies registered were 1879, of which 785 autopsies were conducted. The number of unknown bodies received were 401 and post-mortem conducted on these were 345. The male to female ratio is 5.6:1. The age group with the highest incidence of death is 20-29 (22.5%). Out of the 785 cases 383 (48.7%) were homicidal and only 15 (1.9%) were suicidal. The most commonly used weapon was firearm with the frequency of 19.4% followed by blunt means 13.1%. The frequency of Road Traffic Accidents (RTA) was found to be 3.8%. Deaths due to bomb blast injury comprised 1.4% of the total cases. The most reported cases of autopsy was the City Division with 384 cases (48.9%) followed by Cantt Division with 136 cases (17.3%).

**Conclusion:** Victims were mostly male. The most affected age group was 20-29. The most common manner of death is homicidal. The commonest weapon is firearm and blunt means. RTA is a significant cause of death. The area with the highest reported death is City Division followed by Cantt division.

**Key words:** audit, autopsy, homicide, firearm, Regional distribution,

### INTRODUCTION

Autopsy rate refers to the number of deaths receiving an autopsy expressed per 100 deaths. Autopsy index is the proportion of medicolegal autopsies carried out on total deaths in a community (1). International studies indicate that the autopsy rates have decreased. Data from the United States National Centre for Health Statistics (NCHS) shows that overall autopsy rates fell from 19.1% to 8.5% from 1972 to 2007 in the United States itself (2). Similarly, the autopsy rates in the United Kingdom declined from 25.8% in 1979 to 0.69% in 2013. (3) However, in Pakistan data concerning autopsy rates are lacking as there is no well-established system to collect such data. The rising incident of homicidal deaths is also a cause for concern. A study in Peshawar in 2006 reported that homicidal deaths constituted 77.7% of the total deaths of which 91.2% were homicidal firearms and the overall male to female ratio was 5.5:1 (4). In a study carried out in Karachi in 2012 it was found that the most affected age group was

16-30 years and the victims were mostly male with the male to female ratio being 18:1 (5). The occurrence of Road Traffic accidents was found to be 27.8% out of 2090 cases in 2013 (6). According to World Health Organization road traffic accident injuries result in 25.3 deaths per 100,000 in Pakistan which is undesirable. (7) The risk factors associated with such unnatural deaths are manageable and preventable if properly documented and addressed. This could potentially decrease the rates of autopsy and therefore the economic burden and the human resources. Therefore, the objective of this research paper is to conduct an audit for the autopsies carried out in 2016.

### MATERIALS AND METHODS

It was a retrospective observational study carried out in Forensic Medicine and Toxicology Department KEMU, Lahore from 1<sup>st</sup> January to 31<sup>st</sup> December 2016. Total number of dead bodies registered were 1879. The total

number of autopsies conducted in the department were 785. All known and unknown cases were included.

### Data Collection Procedure

The data was classified according to age, gender as well as manner of death which includes homicide, suicide, accidental, natural deaths, deaths due to stillbirth and unascertained cases.

## RESULTS

Total number of dead bodies registered were 1879. The total number of autopsies conducted in the department were 785. The total number of unknown bodies received were 401 and post-mortem conducted on these unknown bodies were 345.

### Table 1: Age Wise Distribution:

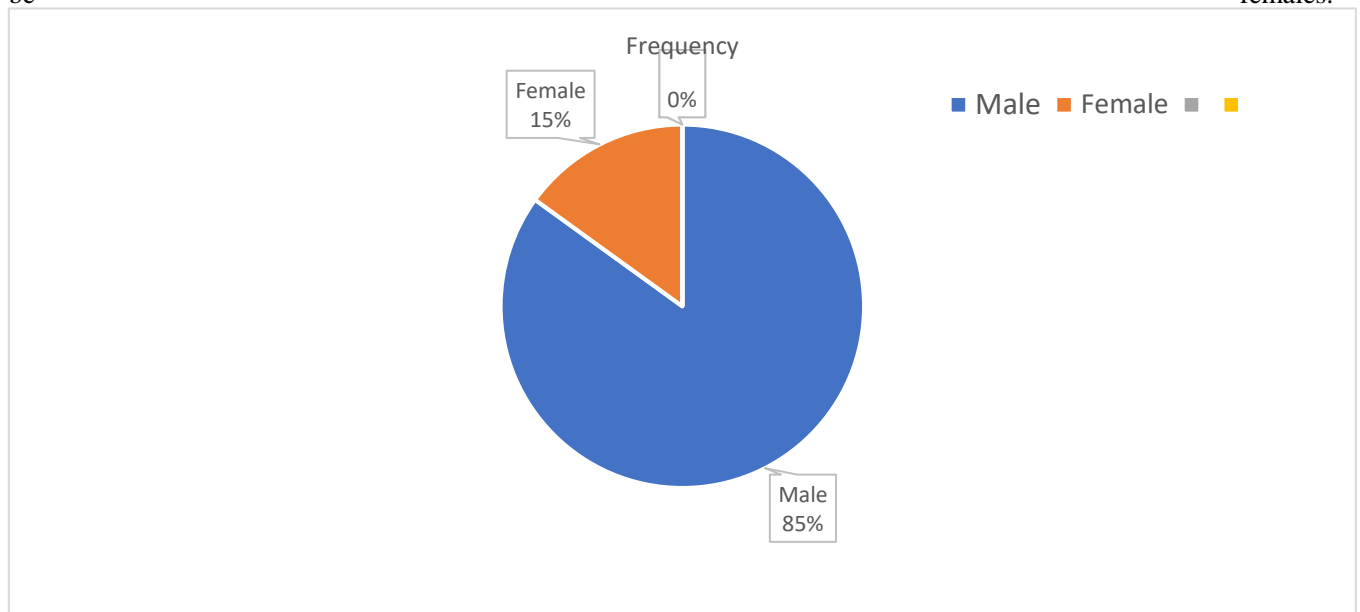
In table 1 the age group with the highest incidence of death is 20-29 (22.5%) followed by 30-39(22.3%). On the other hand, the age group with the least frequency is 0-9 (4.5%).

### BAR CHART 1:

Age	Frequency	Percentage%
0-9	35	4.5
10-19	56	7.1
20-29	177	22.5
30-39	175	22.3
40-49	131	16.7
50-59	114	14.5
>60	97	12.4
<b>Total</b>	<b>785</b>	<b>100</b>

### Pie Chart 1:

In Pie Chart 1 the male to female ratio is 5.6:1. Out of 785 cases 667(85%) were males and 118 (15%) were found to be females.



### Table 2: Manner of Death:

Manner of Death	Frequency	Percentage%
Homicide	383	48.7
Suicide	15	1.9
Accidental	97	12.4
Natural	258	32.9
Still birth	4	0.5
Unascertained	28	3.6
<b>Total</b>	<b>785</b>	<b>100</b>

The results regarding the manner of death as displayed by the bar chart 1 show that out of the 785 cases 383(48.7%) were homicidal and only 15 (1.9%) were suicidal.

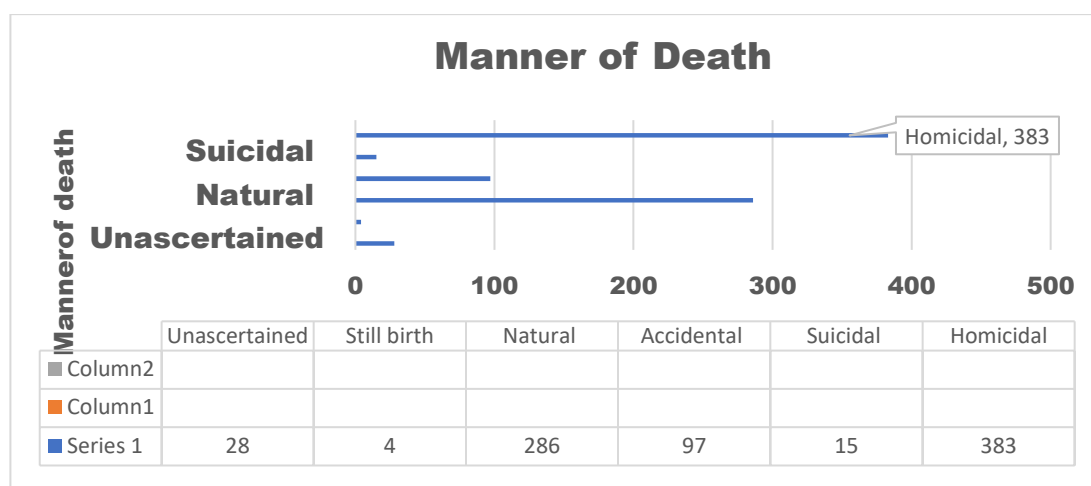
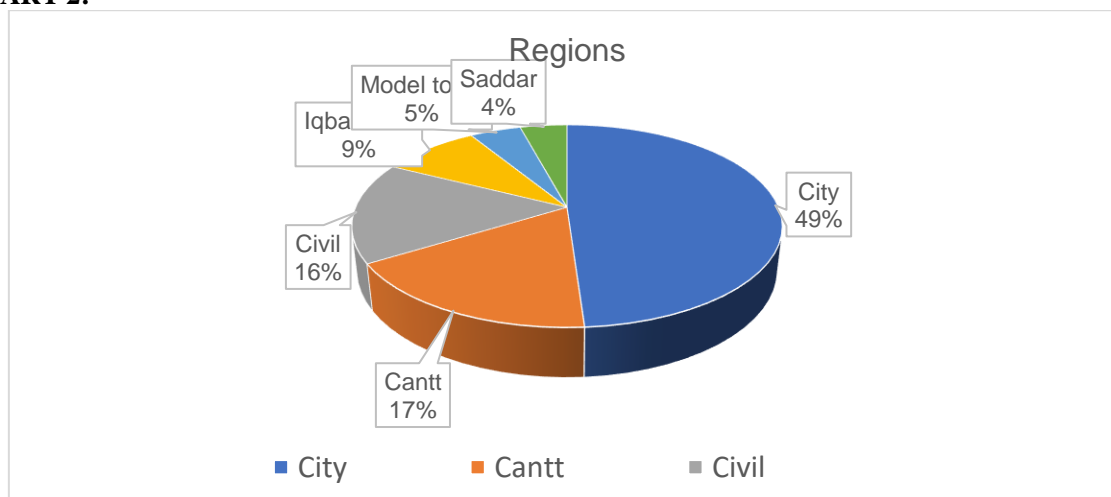
In table 3, the most commonly used weapon was firearm with the frequency of 19.4% followed by blunt means 13.1% and electrocution was found to constitute only 0.7% of the total cases. The frequency of Road Traffic Accidents (RTA) was found to be 3.8%. Deaths due to bomb blast injury comprised 1.4% of the total cases.

**Table 3: Cause of Death:**

Cause	Frequency	Percentage %
Firearm	152	19.4
Sharp Edge weapon	49	6.2
Blunt means	103	13.1
Asphyxia	44	5.6
Poisoning	76	9.7
Electrocution	6	0.7
RTA	30	3.8
Burn	24	3.1
Bomb blast	11	1.4
Still birth	4	0.5
Natural means	258	32.9
Unascertained	28	3.6
Total	785	100

**Table 4: Regional Distribution:**

Regions	Frequency	Percentage %
City Division	384	48.9
Cantt Division	136	17.3
Civil lines	127	16.2
Iqbal Town	69	8.8
Model Town	36	4.6
Saddar division	33	4.2
Total	785	100

**PIE CHART 2:**

The region with the most reported cases of autopsy was the City Division with 384 cases (48.9%) out of the total of 785. The area with the second highest frequency was Cantt Division with 136 cases (17.3%) followed by Civil Lines Division 127 (16.2%) as referred in Table 4. The areas Model Town, Iqbal Town and Saddar Division together constitute less than 20% in pie chart no.2

## DISCUSSION

In our audit of autopsies 2016, the male to female ratio of victims was found to be 5.6:1 which is higher than 3:1 found by Qasim et al in 2012(8). In our study, out of total 785 cases 22.5% belonged to the age group of 20-29 followed by 22.3% of the age group of 30-39. This is comparable to the findings of Khalil and Naeem as in their study the most affected age group was 20-40 with 52.7% out of 1721 cases (9). The age of predisposition towards violence in our study is similar with other studies in Pakistan.

Deaths due to homicide were the highest which is consistent with the findings of Asad and Raja (10). Suicide is a relatively uncommon manner of death. 258 (32.9%) out of a total of 785 cases were due to Natural means making it the second most common manner of death. This highlights the lack of resources in Pakistan for preventive measures, premortem diagnosis and clinical treatment.(17)

The frequent occurrence of firearms and blunt means as homicidal weapons were found to be consistent with the trends observed by other Pakistani as well as other international authors. Firearm was found to be the most common weapon used, followed by blunt means(11,12,13,18). Firearm appears to be a major cause of morbidity and mortality.

According to a report by WHO in 2009 RTA injuries resulted in 25.3 deaths per 100,000 in Pakistan (14). Indeed other studies have provided sufficient data to highlight RTA among the leading causes of death in Pakistan(15.). In our study deaths due to bomb blast contributed to 1.4% of the cases. In a study conducted by Humayun and Fasseh during 2007 to 2008 in Dera Ismail Khan it was found that bomb blasts contributed to 11.75% of deaths (16). This shows that the ratio of deaths due to bomb blasts have comparatively decreased. This may be due to the efforts made over the recent years in Pakistan to improve security measures. Research concerning regional/district wise is lacking in Pakistan. The district with the highest incidence of death is the City Division followed by Cantt Division and Civil lines division. Saddar division had the lowest incidence of deaths.

## CONCLUSION

Out of 785 cases 667(85%) were males and 118 (15%) were found to be females and the male to female ratio is 5.6:1. The age group with the highest incidence of death is 20-29 followed by 30-39. Of the 785 cases 383(48.7%) were homicidal and only 15 (1.9%) were suicidal. the type of weapon most commonly used was firearm with the frequency of 19.4% followed by blunt

means at 13.1%. The frequency of RTA was found to be 3.8%. Deaths due to bomb blast injury comprised 1.4% of the total cases. The region with the most reported cases of autopsy was the City Division with 384 cases (48.9%) out of the total of 785. The area with the second highest frequency was Cantt Division with 136 cases(17.3%) followed by Civil Lines Division with 127 cases (16.2%).

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