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Original Research Article

A Retrospective Study of Homicidal Deaths Autopsied at a Tertiary Care Centre in Maharashtra

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Key words

Homicide,
Sharp weapon,
Blunt weapon,
Autopsy,
Death.

Abstract

Introduction: In the present age of urbanization and industrialization, homicidal crimes are inevitable part of all offences. Homicide is one of the leading causes of unnatural deaths. **Material and Methods:** This was a cross sectional, descriptive study that included all cases of death due to homicide during the period of May 2017 to May 2020, for which post-mortems were performed in the mortuary of the department. **Results:** The study of deaths due to homicide indicates male predominance. Maximum number of cases were in the age group of 20 to 29 years, followed by 30 to 39 years. Over all, the most common motive was revenge. Sharp edged weapon injuries were more common than blunt weapon. In majority of the cases death occurred on the spot or within first 24 hours and cause of death was head injury and haemorrhagic shock. **Conclusion:** Revenge, argument, financial disputes, infidelity, love affairs, poverty, easy accessibility to addictive substances and weapons of violent offences, poor temperament, unemployment etc, are some of the provocative circumstances for such type of violent offences and homicidal deaths. Nationwide registry for reporting of all homicidal cases should be maintained to plan necessary authorities' actions and to prevent homicides.

1. Introduction

Homicide is the most serious crime and is as old as the human civilization and reported as early as in Bible.¹ Homicide is defined as killing of one human by another human being.²

Killing of an individual is the highest level of aggression found in all the culture. Since ages, the

most common motive for these killing has remained same viz., lust for money, women or land. To commit a murder, two elements: "Mens – rea", which means preplanning or afore thought, and "Actus-reus", which means the actual execution; should work together to constitute crime.

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The identification, resolution, and adjudication of homicide, a terrible crime against people, are crucial to the well-being of the entire community.⁴ The data on homicide vary from nation to nation and area to region. Homicide trends may be a helpful indicator of the social stressors in a community and may also offer information that is relevant for law enforcement initiatives.⁵

The global data collection methods for homicides are operative in almost all the countries. The United Nations advises using homicide statistics in addition to survey-based data on violence to track progress towards reaching crime-related Sustainable Development Goals (UNODC 2019). The WHO uses a dataset on the causes of mortality to gather information on homicide from public health sources. The UNODC typically obtains its data from criminal justice sources, though in some nations it also uses public health data. The common methods of homicide that are reported throughout the world are stabbing, mechanical asphyxia, blunt head injury and shooting with firearm.⁶

In a study from AIIMS, New Delhi the data from 20 years were analyzed. There were a total of 1048 male and 323 female homicide cases. They found that the most frequent means of execution were blunt-force head injury, stabbing, gunshot wounds, strangulation, and head injuries, with the head, neck, and chest being the most often chosen target areas of the body. Defense injuries were observed to be present in 7.9% of cases, much more frequently in men, and most frequently in the form of active incised wounds.⁷ Many previous studies have been done to evaluate the age and sex of the homicide victims, the pattern of injuries, motive behind the crime, time of death after assault etc.⁸⁻¹¹ The present study attempts to study and analyze pattern of homicidal deaths at a tertiary care centre in Maharashtra.

2. Materials and Methodology

This was a retrospective cross-sectional study conducted over a period of 3 years from May 2017 to May 2020. All the cases brought to the department of Forensic Medicine, for medicolegal autopsy, either confirmed or later registered as homicide by investigating officer, were considered for the study. The cases subjected for autopsy with alleged or suspected history of homicide but which were later registered as non-homicidal, based on the autopsy findings, circumstantial evidence and investigation by

the police, were excluded. Total data of 260 homicidal deaths cases was collected for the study purpose from post-mortem findings, police, requisition papers, hospital case papers and information furnished by family members and accompanying relatives. Study was approved by ethical committee of the institute. Data was collected using a pretested study proforma, and collected data was entered in Microsoft Excel 2013. Data is presented in frequencies and percentages. Chi square test was used for association using Epi-Info software version 7.2.1. Statistical significance was considered at $p < 0.05$ at 95% confidence interval.

3. Observations and Results

There were 260 cases of deaths due to homicide during the period May 2017 to May 2020. The results are analyzed and tabulated as frequency and percentage in following tables and graphs. In the present study the victims of homicidal deaths had male preponderance 169 (65%) compared to females 91 (35%) (Figure no. 1).

Fig No. 1: Gender distribution of Homicide victims

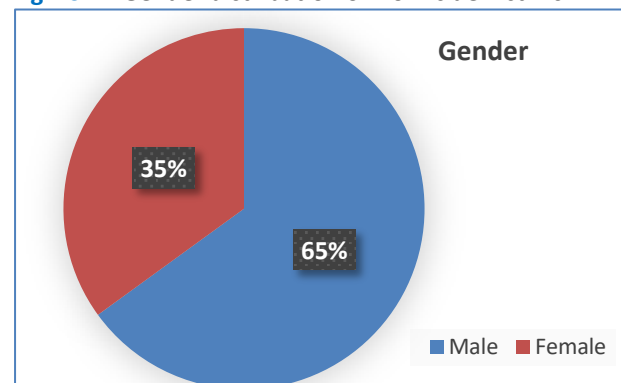


Table No.1: Age wise distribution of Homicidal cases

Age (yrs)	Frequency	Percent
0 to 9	4	1.53%
10 to 19	25	9.61%
20 to 29	104	40%
30 to 39	77	29.6%
40 to 49	25	9.61%
50 to 59	23	8.84%
60 & above	02	0.76%
Total	260	100%

Maximum number of cases was seen in the age group of 20-29 years (40%), then 30 to 39 years (29%) followed by 10 -19 years (6.7%), most less (60 & above). The mean age of the homicide victims was 26.54 ± 12.14 years (Table no. 1). The most common motive was revenge (31.3%), followed by argument

(14.9%), financial conflicts (11.8%) and 15% cases reported other reasons (**Table no. 2**).

Table No.3: Distribution of cases according to pattern of Homicide

Pattern of Homicide	Frequency	Percent
Sharp weapon injuries	116	44.5%
Blunt weapon injuries	75	28.9%
Sharp and Blunt weapon injuries	52	20%
Asphyxial deaths	6	2.2%
Thermal Burns	9	3.4%
Poisoning	2	1%

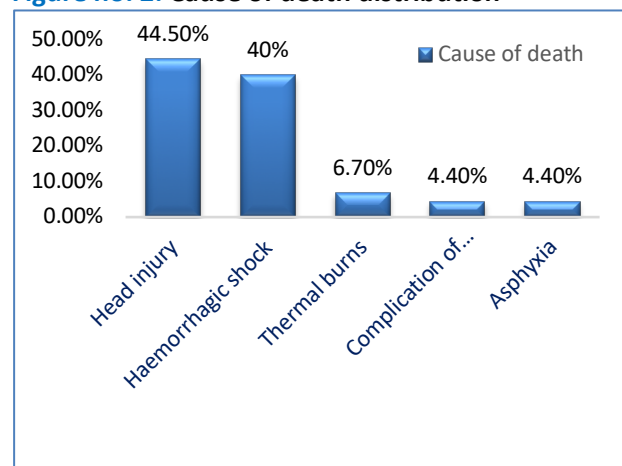
Sharp weapon was the most common used 44.5% and then followed by blunt weapon 28.9%, combined sharp and blunt weapon 20%, Asphyxia 2.2%, thermal burn death shows 1% (**Table no. 3**).

Table No.4: Period of survival

Period of survival	Frequency	Percent
Spot Death / less than ½ hour	143	55%
½ hour to 1 day	66	25.2%
1 day to 7 days	33	13%
More than 7 days	18	6.8%

In this study, death occurred on spot in 55% cases and within first 24 hours in 25.2% cases, followed by 1 to 7 days (13%). 18 cases had deaths after admission in hospital and from consequences of the injuries after 7 days of crime (6.8%) (**Table no. 4**).

Figure no. 2: Cause of death distribution



Cause of death was due to head injury in 116 (44.5%) cases, followed by haemorrhagic shock in 105 (40%) cases, thermal burns in 17 (6.7%) cases, complication of injury and asphyxia in 11 cases each (4.4%) (**Figure no. 2**).

In all the homicidal cases the percentage of use of sharp weapon is highest of 44.5%, followed by blunt weapon is 28.9%. In males it is more common

than in the females. Asphyxia death and poisoning is equal in both sexes. Homicidal burn is more in females than in males. No any significant difference was seen in the male and female sex and method of homicide. ($p=0.456$) (**Table no. 5**).

Table No.5: Showing number of cases in relation to sex and method of homicide

Type of trauma	Cases	Percentage	Male	Female
Sharp weapon	116	44.5%	71	45
Blunt weapon	75	28.9%	40	35
Sharp + Blunt weapon	52	20%	25	27
Asphyxial deaths	6	2.2%	3	3
Burns	9	3.4%	3	6
Poisoning	2	1%	1	1
Total	260	100	142	118

$X^2 = 4.68, p = 0.456^*$

4. Discussion

In the present study, cases of homicide constituted 5% of the total autopsy cases. Majority of victims were male (65%) male to female ratio near about 2:1 and the commonly affected age group of victims was 20 to 29 year (40%), followed by 30 to 39 year (29.6%) which matches with previous studies such as S Jhaveri et al.¹², K Zanzrukiya et al.¹³ The high incidence of cases of males may be because of outside activities, aggressive physical activities and risk-taking behavior and also reason of age group 20 to 29 years of being victim of homicide may be due to person in this age group are more aggressive, short tempered with minimal tolerant.

In most of the cases of homicide, the motive was revenge (31.3%) followed by argument and others (15.6%) which include marital discord, socioeconomic stress, sexual jealousy etc. Similar observations were also made by Hugar¹⁴ in his study wherein the main native was revenge (26.55%), followed by others.

Use of sharp weapon (44.5%) for homicide was more common followed by blunt weapon (28.9%). This observation is similar to study of Hugar B S, et al.¹⁴ Though it contraindicates with the studies of Gambhir O et al.¹⁵ and Patel D J et al.¹⁶ Modi¹⁷ quoted that in India most of the scalp injuries are generally produced by hard and blunt weapons/objects. Combined sharp and blunt weapon (20%), Asphyxia (2.2%) and burns (3.4%) injuries like these could be due to unpremeditated aggressive/explosive response. Similar findings were

seen by Parmar DJ et al.¹⁸ wherein sharp weapon injuries were common, but in contrast study conducted by Rastogi AK et al blunt injuries were common these variations may be due to the local availability and cultural differences of choice of weapons in various states and communities.

The death occurred on spot (55%) or within 24 hour (25.2) and the most common cause of death was head injury (44.5%) followed by hemorrhagic shock (40%). These findings are in contrast with Hugar BS et al.¹⁴ and ParmarDJ et al¹⁸ as they reported most common cause of death is haemorrhagic shock. Asphyxial deaths were observed in 4.4% cases which contradicts with the findings of M.I. Sheikh²⁰, P.Prajapati et al²¹, and J.Shah et al.²² These could be due to lethality of the weapons which are used. Bhupinder S et al⁵ observed that the majority (37%) of the homicidal victims were in the 20-39 years age group. The male: female ratio was 3:1. The majority of deaths were caused by blunt instruments (46%), followed by stab/slash wounds (25%) and asphyxiation (12%).

The incidence of asphyxia deaths was nearly constant in both sexes. Organ chlorine insecticide Endosulphan (Thiodane) was chemically detected in an alleged case of homicidal female poisoning in our study.

5. Conclusion

Homicide is vast varied and intricate topic, yet retrospective analysis of autopsied homicide victims is a tangible attempt to break the shell by exploring certain physical aspects of injuries of homicide. Most common type of weapon used for the offence was sharp edged and pointed ended weapon but mere manual force was also used in significant number of cases. Most common method for homicide was producing mechanical injuries mainly by sharp cutting weapon. The pattern of homicidal deaths revealed from this study showed a high incidence in male. The maximum numbers of cases in the 20 to 29 years group and the common motive were revenge. In majority of cases sharp weapon injuries were commoner compared to blunt weapon and death was due to head injury and haemorrhagic shock.

In the present modern age of industrialization, urbanization, homicides are becoming inevitable part of all offences. Revenge, argument, financial disputes, infidelity, love affairs, poverty, stress, poor socioeconomic status, easy accessibility of addictive substances and weapons of

violent offences, poor temperament, unemployment, and substance abuse etc. are some of the provocative offences. Two cases of alleged poisoning were found. Also, a suggestion for future studies is that multicentered studies should be done regularly to have a more specific accurate scenario of trends of homicidal crimes in a state or nation. To curb the menace of homicide, state and society should ensure education, employment and socioeconomic wellbeing along with strict law enforcement. But authors feel that murder is an act of moment in mind so any decision made under excitement or incitement is the real culprit. Therefore, we would like to wrap up this by suggesting to improving once ability to think over any problem with a balanced and reasonable tolerance. Nationwide registry for reporting of all homicidal cases should be maintained to plan necessary authorities' actions and to prevent homicides.

National guidelines for homicide prevention should be made by analyzing this data, state and district wise customizations should be done. Police and other law enforcement agencies should follow these guidelines to prevent homicides.

Ethical Clearance: IEC approval is taken from the Institutional Ethical committee.

Contributor ship of Author: All authors equally contributed.

Conflict of interest: None to declare.

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