

ORIGINAL ARTICLE

Study of Homicidal Deaths Autopsied in VSSIMSAR, Burla: A Three-Year Retrospective Study

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Abstract:

Killing of an individual is the highest level of aggression found in society. Incidence of homicide is on the rise and its pattern is also changing with time. The present retrospective study was conducted in the department of Forensic Medicine and Toxicology, VIMSAR, Burla from 1st January 2018 to 31st December 2020. All the cases brought to the department for autopsy, either confirmed or later registered as homicide by investigating officer were considered for study. Among 4918 autopsies conducted during the period of 3 years 119 cases (2.41%) were of homicidal deaths. 66.4% of homicide victims are males. Majority of homicidal deaths occur in the age group 21-30 years and 31-40 years accounting for 52% of total cases combinedly. 46.2% homicide victims succumbed to injuries at the spot. Majority of cases (44 cases, 37%) occurred during night hours. Infliction of injuries are present in multiple areas in 42.8% of cases. Blunt weapons (29.4%) were the most commonly used. Defence wound were present in 19% of cases. Most common site of fatal injury is head in 46.2% of cases. In majority of cases (46.2%) cause of death was due to craniocerebral injury.

Keywords: Homicide; Blunt weapon; Defence wound.

Introduction:

Homicide is killing of a human being by another human being. There are two types of homicides I) Lawful which includes justifiable and excusable homicide II) Unlawful which includes (i) murder (S.300, IPC), (ii) culpable homicide (a) amounting to murder (S.299, IPC) (b) culpable homicide not amounting to murder (S.304 IPC) (iii) rash and negligent homicide (S.304 A, IPC).¹

The motives for committing homicidal deaths are usually arguments, revenge, robbery, feud, financial greed, property based conflicts etc. Cases of homicide are increasing day by day due to unemployment, drug addiction, life stress etc. Meticulous post mortem examination is needed in every case of homicide. The pattern of homicidal deaths greatly varies across different regions and population with different socio-economic status that keeps on changing with time.

The pattern of injuries in homicidal deaths may provide clue to the police. The incidence of homicide is increasing worldwide and the pattern is also changing because of population explosion, frustration, illiteracy, prevalent economic, social and political environment, insurgency, terrorism, drug addiction, changing life style, modern needs of the man and easy availability of various types of weapons.² Also defense wound forms a valuable evidence for reconstructing the fatal incidence in homicidal

deaths.³ It is a challenging job for a forensic expert to solve the mystery of death in those cases particularly that initially comes as a natural death and subsequently turned into homicidal death. The role of autopsy surgeon becomes important in determining weapon of offence, probable position of accused and victim at the time of incidence by meticulous examination of injuries. At times, crime scene visit is helpful to reconstruct the crime and also gives clue to the investigating authorities to find the actual culprit.

Materials and Methods:

All types of murder cases and infanticides were included in this study. The data were collected retrospectively of period from 1st January, 2018 to 31st December, 2020 after getting approval from institutional ethics committee during which total 4918 autopsy cases were conducted at the mortuary of VSS institute of medical sciences and research, Burla, Sambalpur. Detailed history regarding age, sex, religion, address, incidence of offence, circumstances, weapons used in the offence etc. were collected from inquest, other documentary records, photographs and from statements of concerned investigating police officers and relatives of the victim. Autopsies were conducted as per standard autopsy protocol and the collected data were analyzed and compared with the studies done by different researchers around the world.

After obtaining the above information, separate data sheets were used for each case and were filled to record above information. These data were analyzed in order to get breakup of the information.

Inclusion Criteria: All the cases brought to the department for autopsy, either confirmed or later registered as homicide by investigating officer are considered for study.

• **Exclusion Criteria:** Any cases subjected for autopsy with

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alleged or suspected history of homicide but later registered as non-homicidal, based on autopsy findings, circumstantial evidence and police investigation were excluded.

- **Ethical clearance:** The study was carried out after obtaining ethical clearance from the institutional ethics committee.

Results:

During the study period a total of 119 cases of Homicidal deaths were studied that were subjected to autopsy at the mortuary of VSS Institute of Medical Sciences and Research, Burla and the results are tabulated under various parameters.

Among 4918 autopsies conducted during the period of 3 years 119 cases (2.41%) were of homicidal deaths. Males homicide victims 79 cases (66.4%) outnumbered females. Majority of homicidal deaths occur in the age group 21-30 years and 31-40 years accounting for (62 cases combinedly) 52% of total cases (Table 1). Most of the homicide victims succumbed to injuries at

the spot (55cases, 46.2%) followed by 33 cases (27.7%) within 24 hours of incident. Most of the cases occurred in outdoor places (82 cases, 69%). Majority of cases occurred during night hours (44 cases, 37%) followed by afternoon hours. Infliction of injuries are present in multiple areas (51 cases, 42.8%) of the body in majority of cases followed by head (19 cases, 16%) (Table 2). Contusion was the most common injury found in 69 cases (58%) (Table 3). Blunt weapons (35 cases, 29.4%) are the most commonly used offending weapons followed by sharp cutting weapons (32 cases, 26.9%) (Table 4). Blunt weapon injuries (52 cases, 43.7%) and sharp weapon injuries (27 cases, 22.7%) were found in majority of cases. Defence wound were present in 23 cases (19%) (Table 5). Head (55 cases,46.2%) is the most common site of fatal injury followed by neck (22 cases, 18.5%). Brain was the most common internal organ to be affected in 55 cases (42.6%). In majority of cases cause of death was due to craniocerebral injury (55 cases,46.2%) (Table 6).

Discussion:

Among 4918 autopsies conducted during the period of 3 years, 119 cases (2.41%) were homicidal deaths which is quite similar to Kulkarni DV. et al., Zanzrukiya K et al., Parmar DJ et al., Bambhaniya AB et al., Sonawane SS et al., Sumangal CN et al.^{4,9} Some authors like Hugar BS et al., Mada P et al., Rastogi AK et al., Angam G et al., Sharma D et al., Patel DJ et al., and Sangal A et al. showed higher rate.^{2,10-15} While Taware AA et al. have lower incidence (1.76%) of homicide than the present study.¹⁶

This study has shown male predominance which might be due to their aggressive nature, outdoor activities, risk taking behaviour and lead role in financial and property affairs. Similar findings were observed by majority of authors.^{4,12,14-18} The present study shows equal number of homicidal deaths in age groups 21-30 years and 31-40 years which together comprises of more than half of the homicidal deaths i.e. 52% of total victims. These findings

Table 1. Age wise distribution of homicidal cases.

Age in years	Number of cases	Percentage (%)
< 1	1	0.8
1-10	0	0
11-20	16	13.5
21-30	31	26
31-40	31	26
41-50	16	13.5
51-60	10	8.4
61-70	9	4.2
71-80	5	4.2
Total	119	100

Table 2. Distribution based on involved body part.

Involved body part	Number of cases	Percentage (%)
Head	19	16
Neck	8	6.8
Chest	2	1.6
Abdomen	2	1.6
Lower limb	1	0.9
Head and neck	6	5
Head and chest	4	3.3
Chest and abdomen	2	1.6
Abdomen and genitalia	1	0.9
Abdomen and lower limb	1	0.9
Head and upper limb	11	9.3
Head and lower limb	6	5
Neck and chest	1	0.9
Neck and upper limb	2	1.6
Neck and lower limb	1	0.9
Miscellaneous	1	0.9
Multiple areas	51	42.8
Total	119	100

Table 3. Distribution based on types of injury.

Type of injury	Number of cases	Percentage (%)
Abrasion	65	54.6
Contusion	69	58
Laceration	59	49.5
Chop	17	14.2
Incised	23	9.3
Stab	11	9.2
Fracture/ dislocation	36	30.2
Burn	9	7.5
Drowning	1	0.8

Table 4. Distribution based on types of weapon.

Types of weapon	Number of cases	Percentage (%)
Sharp cutting	32	26.9
Blunt	35	29.4
Firearm	4	3.3
Bomb/Explosive	1	0.9
Cloth	7	5.9
Others	13	11
Not known	27	22.6
Total	119	100

Table 5. Distribution based on defence wound.

Defence wound	Number of cases	Percentage (%)
Present	23	19
Absent	96	81
Total	119	100

Table 6. Distribution based on cause of death.

Cause of death	Number of cases	Percentage (%)
Cranio cerebral injury	55	46.2
Haemorrhage and shock	32	26.9
Asphyxia	13	10.9
Neurogenic shock	7	5.9
Others (Peritonitis, Poisoning, Septicemia, Thromboembolism, Spinal Shock)	12	10.1
Total	119	100

are in line with most of the authors.^{2,4-12,14-18} The factors contributing for highest incidents in the 21-40 Years age groups were due to marital disputes, property dispute, financial conflicts, unsuccessful romantic disputes, infidelity, revenge, dowry death in females, gang rivalry, unemployment and heated arguments.

Majority of homicide victims succumbed to injuries at the spot. This is similar with most of the authors.^{6,7,10,13,15,17} This could be due to lethality of weapon, determination of assailant to kill the victim and tremendous force applied on the vital parts of the body. Most of the cases occurred in outdoor places which is quite similar with Sumangala CN et al., Patel DJ et al. and Sangal A et al.^{9,14,15} This could be due to outdoor being the place where from the assailant can escape easily after committing the crime. While it differs from the observations made by Sonawane SS et al. and Mada P et al.^{8,10} Majority of cases occurred during night hours. This is at par with Prashanth M et al., Sangal A et al. and Taware AA et al. Majority of the homicidal deaths taking place during night time could be due to the fact that there is little or no light at all during night hours, less surveillance and easy escape without being identified, hence it is the preferred time for committing the crime. Some authors like Bambhaniya AB et al. and Patel DJ have observed most cases occurring during evening hours.^{7,14}

Multiple areas of the body are the most commonly affected region followed by head. This could be due to movements of different parts of body during the act and the assailant targeting the vital parts of body to kill the victim. While some authors like Parmar DJ et al., Patel DJ et al., Taware AA et al. and Mohan M et al. observed the head to be the most commonly involved body part.^{6,14,16,18} However Sangal A et al. found the chest and abdomen to be the most common body part involved.¹⁵ Contusion was the most common injury followed by abrasion and laceration. This could be due to preferred use of hard and blunt weapons. It contradicts with Patel DJ et al., Taware AA et al., Buchade DD et al. where abrasion is the commonest type of injury.^{14,16,17} While Mohan M et al. found the most common injury type to be fracture followed by ligature mark.¹⁸

Death due to injury by the use of hard and blunt weapon was the commonest in our study observed in 35 cases (29.4%) followed by sharp cutting weapons in 32 cases (26.9%) which could be due to most of the cases of homicide were not premeditated and used the blunt weapon available at the site of the crime. Sharp weapons were the next commonly used tool for homicide. Most of the sharp weapon homicides were premeditated and involved in rivalry and intention to cause fatal injury to the victims. Firearms usage was very minimal in our study due to strict rules of government regarding the selling of fire arms. Uncommonly in our study one case of explosive usage has been documented. The findings of our study are consistent with most of the authors.^{8,10,11,14,16-18} Our findings are not similar with Kulkarni DV et al., Zanzrukiya K et al., Parmar DJ et al. and Bambhaniya AB et al. where sharp cutting weapons are commonly used.^{4,7} Sangal A et al. found the most commonly used weapon to be firearm in their study.¹⁵ In 19% of cases defence injuries were present. Injuries on limbs which could be due to preventing the attack and grasping the weapon to protect vital parts of body. This is comparable with observations made by Parmar et al. and Sharma D et al.^{6,13} While

Sachin S et al., and Patel DJ et al. have higher incidences of defence injuries.^{8,14} Head was the commonest site of fatal injury infliction. It is similar with the observations made by Kulkarni DV et al., Parmar DJ et al., Sonawane SS et al. and Sharma D et al.^{4,6,8,13} as head is the most accessible part and where a single injury can also lead to death of an individual. However Zanzrukiya K et al. described the neck as chief body part receiving the fatal injury.⁵ Brain was the most common internal organ to be injured in majority of cases. Higher involvement of brain could be due to the fact that brain is vulnerable to even lesser amount of blunt force trauma and also when victim is knocked down, he often strikes his head on ground. The findings are similar to that of Parmar DJ et al., Sharma D et al. and Taware AA et al.^{6,13,16} This is in contrary to the observations made by Bambhaniya AB et al. where lung was the most common internal organ to be affected.⁷ Cause of death was predominantly craniocerebral injury which is consistent with Sonawane SS et al., Mada P et al., Sharma D et al., Taware AA et al. and Buchade DD et al.^{8,10,13,16,17} It may be due to the fact that head is one of the most vital regions of the human body which is in focus in the great majority of assaults especially involving blunt injuries. Some authors like Kulkarni DV et al., Parmar DJ et al., Rastogi AK et al. and Sangal A et al. have observed haemorrhage and shock to be the cause of death in most cases.^{4,6,11,15}

Conclusion:

Considering the above observations, we feel that there is necessity to look for solutions for the problems of youth, as it is the most common age group involved in such crimes. Strict night surveillance, installation of CCTV cameras at vulnerable places and strict implementation of laws against the ones possessing dangerous weapons and punishment for the same can help to reduce such heinous crimes. Finally the difference among the findings of Indian authors can be attributed to different geographical areas, cultural diversity and local issues. Hence there is need of more such studies in different regions to get proper profile of homicidal deaths.

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