Original Article

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Profile of Homicidal Deaths: An Autopsy Based Study

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Abstract

Homicide is the most serious crime, as old as civilization and reported as early as in the Bible. The present prospective observational study was conducted at Forensic Medicine department of B J Govt. Medical College on 207 cases of alleged homicides brought for postmortem examination. The incidence of homicidal deaths was 1.76% with male preponderance and male to female victim ratio 3.9:1. Age group 21-30 years (36%) was the most commonly affected age group. Majority cases (55.55%) occurred during night and majority (36.71%) of the deaths occurred in summer season. Most common motive for killing was revenge (31.88%). Blunt injuries were commonest followed by sharp injuries, while hard and blunt weapon (53.14%) was the weapon of choice in majority. Head, neck and face region of body was most commonly affected in (49.4%) cases while brain (48.47%) was the most common internal organ/structures involved. Head injury (32.85%) was commonest cause of death followed by shock and haemorrhage due to injuries and asphyxial deaths.

Keywords: Homicide; Homicidal Deaths.

Introduction

The world's first murderer CAIN sought to evade an admission that he had just killed his own brother ABEL [1]. Since then man has been more fascinated by crime than by any other subject. Offences against human body are many, of which Homicide is the most heinous crime. The word Homicide has been derived from Latin word "Homo-a man [2] and cadre-to-kill or cut" [3].

Young offenders are becoming increasingly violent and this is a cause for concern, as they are tomorrow's generation [4]. India has earned dubious distinction of being the country where maximum number of murders takes place in the world, three times more than its neighbour Pakistan and double the figures in United States. Therefore homicide should be taken as public health issue, and emphasis has to be laid on reliable data and surveillance mechanisms, so that we can bring a practical and simple approach to homicide prevention. The incidence of murder (33,981) cases with national average rate of 2.7 has increased by 2.3% in 2014 as compared to previous year cases [5].

Until the forensic pathologist has demonstrated that death was produced directly or indirectly by some kind of violence or culpable negligence, there is no homicide to investigate. If he misdiagnoses a non –existent homicide, he may place an innocent person in jeopardy, conversely, if he fails to give adequate weight to the part played by violence and concludes that death resulted entirely from natural causes, a murderer goes free, and a crime goes unpunishe [6].

Homicide investigation can never be complete without a detailed post-mortem examination. Whatever barometer, adopted homicide is of vital importance to every citizen, entire community, the law enforcement authority and to the judiciary necessitating that the assailant be promptly identified, apprehended and punished. It is obvious that a thorough medical and scientific investigation

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is necessary in every suspicious homicidal death. Homicide is prevalent widely almost all over the world [4]. It deserves a thorough analysis in order to prevent violence [7].

The homicidal death pattern could be handy barometer of the social tensions in a community, and the comprehension thus acquired can be emphasized to reveal intensity of its footprint on the society as well as to find remedy by providing this convenient information to law-enforcement agencies. To analyze various epidemiological and demographical factors associated with homicidal deaths and to establish the incidence and patterns of various forms of homicidal deaths is the aim of the present study.

Materials and Methods

The present study was conducted at Department of Forensic Medicine and Toxicology of B J Govt. Medical College, Pune on 207 alleged homicidal cases brought for autopsy during the study period from September 2014 to September 2016 after getting approval from Institutional ethical committee. All cases of alleged homicides specified in the above mentioned period and confirmed by investigating officers before autopsies, or found to be homicide at autopsy were included in present study. Cases with incomplete data, Cases of deaths from explosions and cases other than alleged homicidal deaths were excluded from study.

Analysis of the necessary post mortem findings was done. The material and information regard to them as panchnama report, hospital treatment records were obtained from the police, apart from the post-mortem examination reports from the department.

The police personnel, relatives, friends and others persons who came along with the deceased were interviewed and further required information was collected from them as regards to factors like motive, literacy status etc.

In the mortuary prior to post-mortem examination, different external injuries were noted in detail, and were analyzed by taking in to account various parameters like gross appearance of injury, size, shape and nature of injury, number of injuries, location of injuries over different anatomical areas of the deceased etc. On internal examination, corresponding injuries to various internal organs were noted in detail. The post-mortem examination was conducted as per standard protocol and advanced cause of death certificate was prepared for same.

After obtaining the above information, a separate data sheet was used for each case and was filled to record above information. This data was analyzed, in order to get breakup of the information.

Results and Observations

During this two year study period, total 11702 cases were autopsied, out of which 207 (1.76%) cases were homicidal in nature. (Fig. 1) Majority of victims were from age group 21 to 30 yrs (3rd decade of life) i.e.74 (36%) cases, followed by age group of 31 to 40 yrs (4th decade of life) i.e.58 (28%). There were no cases of infanticides (Age <1 yr). Only 3(1%) deaths were noticed in the age group of above 70 years (Table 1). During the study period

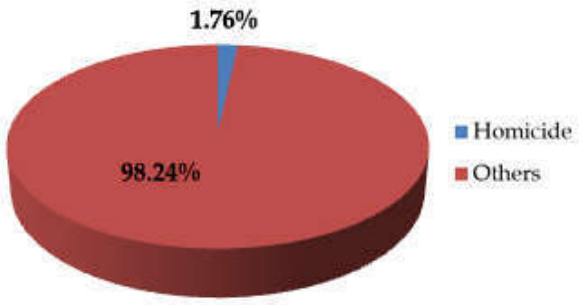

Fig. 1: Average distribution of Homicidal cases

Table 1: Distribution of cases according to age of the Victim

Age group(Years)	Number	Percent (n=207)
01-10	05	02
11-20	17	08
21-30	74	36
31-40	58	29
41-50	19	09
51-60	27	13
61-70	04	02
Above 70	03	01
Total	**207**	**100**

total 207 cases of homicides were autopsied, out of which, 165 (80%) were males and 42 (20%) were females (Table 2).

Majority of victims 141 (68.12%) were married while marital status of 16 (7.73%) victims was not known (Table 3). The time of assault over victim in majority cases 115 (55.55%) was night time, followed by morning hours (Tabl 4).

In the present study, 152 (73.43%) victims were literate and 39 (18.84%) victims were illiterate, while literacy status of 16 (7.73%) victims was not known (Table 5). It was also noticed that maximum homicidal cases occurred during summer season 76 (36.71%), followed by 74 (35.75%) cases during rainy season (Table 6). During the study we found that most common motive for homicide was revenge i.e.66 (31.88%) cases. Sudden grave provocation was next most frequent motive with 31(14.98%) cases followed by money and break down of relationship with 30 (14.49) victims each (Table 7).

Abrasion 112 (24.88%) was the most commonly inflicted injury on victim, followed by contusion in 103 (22.88%) cases (Table 8). Most commonly used

Table 2: Distribution of cases according to gender of Victim

Sex	Number	Percent (n=207)
Male	165	80
Female	42	20
Total	207	100

Table 3: Distribution of cases according to Marital status of the Victim

Marital Status	Male		Female		Total	
	No	Percent (n=165)	No	Percent (n=42)	No	Percent (n=207)
Married	105	63.64	36	85.71	141	68.12
Unmarried	45	27.27	05	11.90	50	24.15
Unknown	15	9.09	01	2.38	16	7.73
Total	165	100	42	100	207	100

Table 4: Distribution of cases according to time of assault

Time of assault	Number	Percent (n=207)
Morning	34	16.45
Afternoon	21	10.14
Evening	21	10.14
Night	115	55.55
Unknown	16	7.72
Total	207	100

Table 5: Distribution of Cases according to Literacy status of Victim

Literacy Status	Male		Female		Total	
	No	Percent (n=165)	No	Percent (n=42)	No	Percent (n=207)
Literate	127	76.97	25	59.52	152	73.43
Illiterate	23	13.94	16	38.10	39	18.84
Not known	15	9.09	01	02.38	16	07.73
Total	165	100	42	100	207	100

Table 6: Distribution of Cases according to Seasonal Variation

Season	Male		Female		Total	
	No	Percent (n=165)	No	Percent (n=42)	No	Percent (n=207)
Summer	61	36.97	15	35.71	76	36.71
Rainy	61	36.97	13	30.95	74	35.75
Winter	43	26.06	14	33.33	57	27.54
Total	165	100	42	100	207	100

weapon was hard & blunt object causing death of 110 (53.14%) victims, followed by sharp object 58(28%)(Table 9).

Head, neck & face was the most commonly involved anatomical region in 158 (49.40%) victims, followed by limbs in 65 (20.30%) victims (Table 10). While brain was the most commonly involved internal organ/structure affecting 143 (48.47%) victims, followed by neck structures affecting 45 (15.25%) victims (Table 11). In out of

Table 7: Distribution of Cases according to Motive of Homicide

Motive	Male		Female		Total	
	No	Percent (n=165)	No	Percent (n=42)	No	Percent (n=207)
Revenge	64	38.79	02	4.76	66	31.88
Sudden grave provocation	28	16.97	03	7.00	31	14.98
Money	25	15.15	05	12.71	30	14.49
Breakdown of relationship	06	3.64	24	57.00	30	14.49
Theft	15	9.09	04	9.52	19	9.18
Jealousy	12	7.27	00	0.00	12	5.80
Sexual assault	00	0.00	03	7.00	03	1.45
Not known	15	9.09	01	2.00	16	7.73
Total	165	100.00	42	100.00	207	100.00

Table 8: Distribution according to Injuries over body of Victim

Name of Injury	Male(n=165)	Female(n=42)	Total	
			No	Percent (n=207)
Abrasion	93	19	112	24.88
Contusion	84	19	103	22.88
Laceration	84	14	98	21.78
Incision	35	07	42	9.34
Chop	35	03	38	8.45
Stab	29	02	31	6.88
Firearms	13	01	14	3.12
Burns	03	09	12	2.67
Total	376	74	450	100

Table 9: Distribution of Cases according to kind of Weapon

Name of Weapon	Male(n=165)	Female(n=42)	Total	
			No	Percent (n=207)
Hard & Blunt	90	20	110	53.14
Sharp & Heavy	21	7	28	13.53
Sharp & Pointed	14	2	16	7.73
Sharp, heavy & Sharp, pointed	14	0	14	6.76
Fire	3	9	12	5.80
Firearm	5	2	07	3.40
Ligature & Blunt	5	1	06	2.90
Firearm & Sharp	6	0	06	2.90
Firearm & Blunt	2	0	02	0.96
Ligature	1	1	02	0.96
Ligature & Sharp	2	0	02	0.96
Blunt & Sharp	2	0	02	0.96
Total	165	42	207	100

Table 10: Distribution according to Involvement of Anatomical region of Victim

Anatomical region	Male(n=165)	Female(n=42)	Total	
			No	Percent (n=207)
Head, Neck & Face	123	35	158	49.40
Limbs	55	10	65	20.30
Chest	46	09	55	17.20
Abdomen	25	04	29	9.00
Genitals	02	05	07	2.20
Back	04	02	06	1.90
Total	255	65	320	100.00

Table 11: Distribution according to Involvement of internal organ/structure in Victim

Internal organ / Structure	Male(n=165)	Female(n=42)	Total No	Total Percent (n=207)
Brain	126	18	143	48.47
Neck Structures	32	14	45	15.25
Lungs	33	03	36	12.20
Stomach, bowels & mesentery	20	01	21	7.44
Liver	13	01	14	4.74
Heart	09	01	10	3.40
Nerves, bones & vertebra	08	01	09	3.50
Kidneys	04	01	05	1.70
Spleen	03	01	04	1.40
Vagina	00	02	02	0.75
Diaphragm	02	00	02	0.75
Anus	01	01	01	0.40
Total	251	44	295	100.00

Table 12: Distribution of cases according to Cause of Death

Cause of Death	Male(n=165)	Female(n=42)	Total No	Total Percent (n=207)
Head Injury	57	11	68	32.85
Shock & Haemorrhage due to injuries	57	09	66	31.88
Multiple Injuries	18	03	21	10.14
Complications of injury	15	02	17	8.24
Burns	03	10	13	6.28
Asphyxial deaths	03	05	08	3.86
Head Injury with strangulation	06	00	06	2.90
Cut throat injury with sexual assault	00	02	02	0.97
Blunt Trauma to Abdomen	01	00	01	0.48
Head injury with Throttling	01	00	01	0.48
Perforative peritonitis	01	00	01	0.48
Head Injury with Decapitation	01	00	01	0.48
Drowning with perianal injuries	00	01	01	0.48
Blunt Trauma to Chest & Abdomen	01	00	01	0.48
Total	165	42	207	100.00

total 207 victims autopsied, head injury 68 (32.85%) was the most common cause of death in majority of the victims, followed by shock and haemorrhage due to injuries in 66 (31.88%) victims (Table 12).

Discussion

In the present study, incidence of homicide was found much lower as compared to those observed by Shivakumar BC et al. [4] (4.76%) and Hugar BS et al. [8] (4.32%). The finding suggesting involvement of maximum number of victims from age group 21 to 30 yrs i.e. 36% cases is consistent with studies like Hilal A. et al. [7] (30.32%), Mada P. et al. [9] (42.33%), and Aggarwal NK et al. [10] (42.5%). The reason for more incidence of homicide in individuals of age group 21 to 30 years can be attributed to the facts that the persons belonging to this age group are most energetic and are the most struggling one's in life. They are constantly exposed to external environment leading to a state of insecurity and dissatisfaction arising from unresolved problems or unfulfilled needs. They have no restrictions on their movement and have high tendency to ignore the family commitments.

The present study shows male preponderance with 165 (80%) male victims and 42 (20%) female victims and male to female ratio of 3.9:1. This means male victims are 3.9 times more involved in homicidal incidences compared to female victims. This male preponderance is consistent with studies done by Hugar BS et al. [8] and Mada p. et al. [9].

The reason for more incidence of homicide in males than females can be attributed to the fact that our society follows breadwinner model, in which male earns

money to support other family members, and hence males are exposed greatly to anger, annoyance, and agony more than females. Also males tend to meet different people, thus leading to more one to one interaction, which may lead to annoyance and agony and may predispose to murder.

In the present study majority of victims were found to be married i.e. 141 (68.12%), and this finding is in agreement with studies done by researchers like Mada P. et al. [9], Patel DJ et al. [11] and Mohanty S. et al. [12]. However, study of Rawat V. et al. [13] mentioned that unmarried victims were more commonly affected.

In the present study out of 207 homicidal cases, the time of assault in majority cases 115 (55.55%) is during night time, followed by morning hours in 34 (16.45%) cases. Researchers like Shivakumar BC et al. [5], Mada P. et al. [9], Aggarwal NK et al. [10] and Mohanty S. et al. [12] also reported higher incidences of such events at night hours. However study of Hugar BS et al. [8] reported that maximum cases of homicides occurred during evening hours, while Bhupinder S. et al. 14] showed that maximum cases of homicides occurred during morning time.

Reason for majority of the homicidal deaths taking place during night time could be because of fact that there is little or no light at all during night hours and less surveillance, hence it is suitable for easy execution of the act.

In the present study out of 207 homicidal cases, maximum victims 152 (73.43%) were literate, and 39 (18.84%) victims were illiterate. This observation is consistent with the observations of Shivakumar BC et al. [4]. However study of Mada P. et al. [9] and Mohanty S. et al. [12] reported that illiterate victims were involved in more numbers compared to literate victims.

In the present study maximum homicidal cases were seen during summer season 76 (36.71%) followed by 74 (35.75%) cases during rainy season. This observation is in accordance with study of researchers like Rastogi AK et al. [15] and Mohanty S. et al. [12]. However this observation contradicts study of Patel D J. [11] who reported highest incidence in rainy season. The reason for spurting in summer season could be attributed to extremely hot and erratic climate. It is also season of weddings and fairs and festivals in this part of Maharashtra, forcing public to remain out of their houses and leading to more assembling and interactions. While in rainy and winter season people usually tend to remain inside their homes thus avoiding further consequences.

In the present study, commonest motive was found to be as revenge and sudden grave provocation was next most frequent motive. Revenge was also found to be main motive for homicide in studies reported by Hugar BS et al. [8] (26.5%) and Patel D J [11]. However Shivakumar BC et al. [4] reported enmity as main motive, Gupta A et al. [16] reported quarrel/violent rage as main motive, Shah JP et al. [17] reported money as main motive and Parmar D J [18] reported argument as main motive.

Revenge is reasonably a thoughtful and pre-planned crime while sudden grave provocation includes interaction on issues of personal, social or financial conflicts. This reflects that most of the acts start on inconsequential and non significant issues but due to self-image, hostility and prodding gets terminated in to heinous act like homicide.

In the present study, blunt weapon injuries were found to be most common injuries followed by sharp weapon injuries. Amongst the blunt weapon injuries abrasion 112 (24.88%) was the most common injury followed by contusion 103 (22.88%) and laceration in 98 (21.78%). Amongst the sharp weapon injuries chop injury 38 (8.45%) was the most common injury followed by incision 42 (9.34%) and stab 31 (6.88%). These were followed by firearm injury in 14 (3.12%) cases, followed by burns in 12 (2.67%) cases. The observation of blunt weapon injuries being the most commonly found injury is in agreement with study of other researchers like Buchade DD et al. [19] but is not in agreement with study of other researchers like Ghangale AL et al. [20] where sharp injuries were found to be more common. Hilal A. et al. [7] reported firearm injury as the commonest injury in their study, which was of minimal incidence in the present study.

In the present study most commonly used weapon was hard & blunt weapon causing death of 110 (53.14%) victims, followed by sharp weapons 58 (28%), followed by firearm in combination with blunt and sharp weapons in 15 (7.26%) victims.

This observation in the present study is in agreement with study of Mohanty MK et al. [21], and Mohanty S. et al. [22]. However researchers like Hugar BS et al. [8], Shivakumar BC et al. [4] and Mada P. et al. [9] reported that sharp weapons were weapon of choice in majority of cases.

The reason of higher incidence of blunt weapon injuries can be attributed to the fact of easy availability and accessibility of blunt weapons like iron rod, stone, brick, hammer, wooden stick and plank etc. When any person becomes aggressive

and is in heat of towering rage, he generally finds whatever is easily available and handy at that particular moment. Also most of the homicides are generally unpremeditated and blunt objects are easily found all over as compared to sharp and firearm weapons. Lastly blunt weapons are less costly and when discovered afterwards can be claimed to be domestic tools or agricultural instruments.

In the present study in majority of cases head, neck and face was the most commonly involved anatomical region affecting 158(49.40%) victims, followed by limbs affecting 65(20.30%) victims. This observation is consistent with the studies of researchers like Buchade DD et al. [19].

The reason for the involvement of head, neck and face targeted in majority of the cases can be attributed to the fact that it is easy to hide the originality of the victim by distorting the face, or by altering the shape of the head and face. Head contains one of the most key organs, the brain, while neck contains the wind pipe and major blood vessels. So any injury to head, neck and face will be fatal is a well known fact even to the lay man also.

In the present study brain is the most commonly involved internal organ/structure affecting 143 (48.47%) victims, followed by neck structures affecting 45 (15.25%) victims. This observation in the present study is similar to the study done by researchers like Mishra PK et al. [23]. Buchade DD et al. [19] reported involvement of neck structures as the most common one.

The reason for higher involvement of brain could be attributed to the fact that the brain is one of the most indispensible internal organs of the human body. Assailants focus to kill his victim at any cost and try to injure the most vital organ of the body.

In the present study, head injury 68 (32.85%) is the most common cause of death followed by shock and haemorrhage in 66 (31.88%) victims. This observation in the present study is similar to studies done by researchers like Mada P. et al. [9] and Mishra PK et al. [23]. On the other hand Buchade DD et al. [19] reported shock and haemorrhage as the commonest cause of death.

The reason for the dominance of head injury could be attributed to the fact that head is one of the most key regions of the human body and most endangered area of the body to accept injuries. It is target of choice in the great majority of assaults especially involving blunt injuries.

Conclusions

1. The incidence of homicidal deaths is 1.76%.
2. There is male preponderance with male to female victim ratio 3.9:1, and age group 21-30 years (36%) is the most common affected age group.
3. Majority cases (55.55%) occurred during night and majority (36.71%) of the deaths occurred in summer season.
4. Most common motive for killing is revenge in majority cases (31.88%).
5. Blunt injuries are commonest followed by sharp injuries in the present study while hard and blunt weapon (53.14%) is the weapon of choice in majority of the cases.
6. Head, neck and face region of body is most commonly affected in (49.4%) cases while brain (48.47%) is the most common internal organ/ structures involved.
7. Head injury (32.85%) is commonest cause of death followed by shock and haemorrhage due to injuries followed by asphyxial deaths.

Depending upon above observations we feel that there is a need to look into solutions for the problems of youth, as it is the most common age group involved in such crimes. Secondly strict night vigilance and strict implementation of laws against the ones possessing dangerous weapons can help to reduce such crimes. Secondly the difference between 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.

Ethical Clearance: Obtained

Source of Funding: Self

Conflict of interest: Nil

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