

Pattern of Homicide Cases in a Coastal District of Central Kerala Over the Last Ten Years: An Autopsy-Based Study

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Abstract

This study aims at exploring the demographical profiles of the victims and assailants, the weapons used, and the fatal injuries inflicted on the body, in cases of homicide. A record-based cross-sectional study was conducted at the Department of Forensic Medicine, Govt T.D. Medical College, Alappuzha, Kerala, from July 2012 to July 2022. Out of 8952 autopsies conducted during the study period, there were 205 cases (2.29%) of homicide. 55.62% of cases were during the first five months, from January to May. The victims were between 31-40 years in 23.9% cases and 21.46% were 21-30 years old. Out of 205 cases of homicide, 48.36% were due to blunt force injuries and 38.97% by sharp force injuries. In the case of blunt force injuries, maximum involvement was to the head & face (52.55%); in sharp force injuries, involvement was highest in the chest (34.65%). The majority of the assailants were males (73.91%). The most common alleged motive was quarrel (27.32%), closely followed by rivalry (25.85%). The findings of our study are mostly in agreement with the existing literature.

Keywords: Homicide, Alappuzha, Victim, Injuries, Assailant, Motive.

Introduction

Homicide (homos: human being, caedere: to kill) literally means to kill a human being. In other words, it is the killing of a human being by another human being, which is the most severe form of violence, depriving a human being of his (or her) fundamental right to live. According to the Global Health Observatory (World Health Organisation), homicide is caused by a mix of individual, relationship, community, and societal factors; demographic structure being a well-established risk factor. Societies with greater share of young people – particularly young males, tend to have higher homicide rates. Transitions in political regimes may also be associated with increased homicide.

Homicides can be of two types, (i) Lawful (consisting of justifiable and excusable cases) and (ii) Unlawful. The 'lawful' category of homicide is not used in Indian law. In India, unlawful homicides are identified in the Indian Penal Code (IPC) of 1860 under the following sections - (a) Sec 299 IPC – Culpable homicide, (b) Sec 300 IPC – Murder (culpable homicide amounting to murder), (c) Sec 301 IPC – Culpable homicide by causing the death of a person other than person whose death was intended, (d) Sec 304A IPC – causing death due to rash and negligent act.¹ According to the statistics published by the National Crime Records Bureau, a total of 29,193 cases of murder were registered in India during 2020, showing a marginal increase of 1% over 2019 (28,915

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cases). In 2020, the highest rate of murder (number per lakh population) was reported in Jharkhand (4.2) and the lowest in Kerala (0.9) against a national average of 2.2.

Even though several studies on homicides have been conducted in different parts of the country,³⁻⁹ very few have been done in our region. This study aims at exploring various aspects of homicide cases brought for autopsy at our mortuary, with respect to susceptible victims, assailants, reasons behind such crimes, common methods used, types of weapons used, and the fatal injuries sustained.

Homicide cases are not uncommon in India; Kerala too is no different. We frequently encounter violent crimes like homicides in our routine Forensic Practice. Homicide investigation can never be complete without a detailed post-mortem examination. Forensic surgeon plays a very important role in establishing the cause of death, collecting relevant material evidence, and thereby aiding the Judiciary in finding out the whole truth.

The present study aims at exploring the demographical profiles of the victims and assailants, the weapons used, and their violent impact on the human body. This will help us to elucidate the different aspects of deaths by homicide.

Materials and Methods

Study Design- Record-based cross-sectional study

Study Setting - Mortuary wing of Govt. T.D. Medical College Hospital which comes under the Department of Forensic Medicine, GTDMC Alappuzha.

Study population - Cases brought for medico-legal autopsy.

Sample size - All cases of homicide brought for autopsy from 15th July 2012 to 14th July 2022.

Inclusion criteria: All cases of homicide brought for autopsy to the mortuary wing of the Department of Forensic Medicine, Govt T.D. Medical College, Alappuzha from 15th July 2012 to 14th July 2022.

No case of homicide was excluded from this study.

Required data was collected from police requisition, post-mortem detailed notes, and post-mortem reports. Data was collected, stored as hard copies, and later entered into Microsoft Excel, and analysis was done.

Results and Discussion

Out of 8952 autopsies conducted during the study period, there were 205 cases of homicide i.e. 2.29%.

Of the 205 cases of homicide, the highest number was reported in 2014 (28 cases) and the least in 2018 (9 cases).

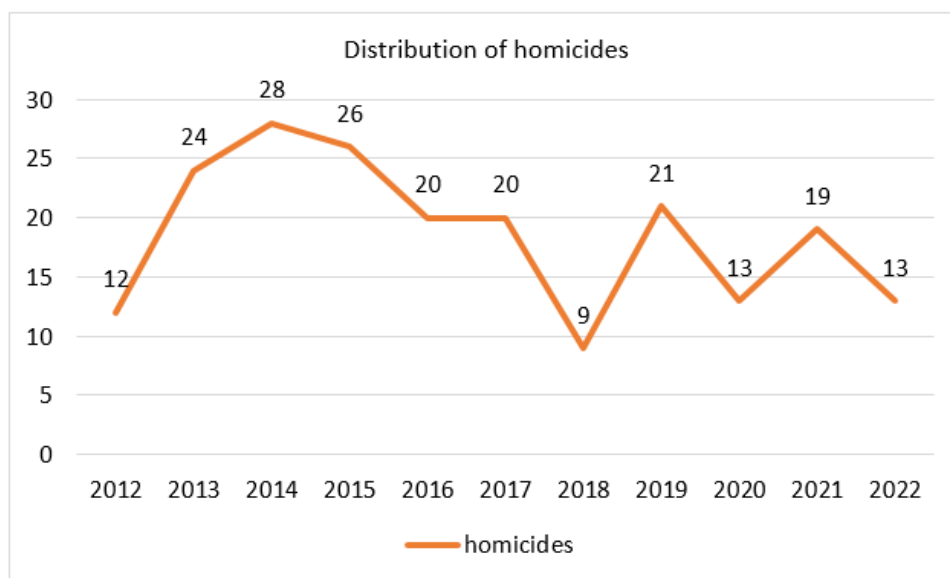


Figure 1: Year-wise distribution of homicides

The largest number of homicide cases were reported in April (16.1%) and the least in December (4.39%). 55.62% of cases were during the first five months, from January to May.



Figure 2: Distribution of homicide cases in each month

Age and sex distribution

In this study, the majority of the victims were in the 3rd decade of life i.e. 31-40 years with 49 cases (23.9%), followed by the age group 21-30 years with 44 cases (21.46%).

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Among the 205 victims, 149 were males (72.68%) and 56 were females (27.32%).

Table 1: Age distribution of homicide victims

Age group	no.	%
0-10	7	3.41
11-20	7	3.41
21-30	44	21.46
31-40	49	23.90
41-50	37	18.05
51-60	23	11.22
61-70	24	11.71
71-80	12	5.85

Types of fatal injuries

Out of 205 cases of homicide, 103 were due to blunt force injuries (48.36%), followed by sharp force injuries in 83 cases (38.97%), strangulation in 24 cases (11.27%), burns in 2 (0.94%) and one case of firearm injury (0.47%).

Distribution of fatal injuries on body regions

In the case of blunt force injuries, maximum involvement was to the head & face, 72 cases (52.55%) followed by the chest (16.79%) and abdomen (15.33%). For sharp force injuries, involvement was highest in the chest, 44 cases (34.65%) followed by the abdomen (23.62%), head & face (16.54%), and neck (15.75%).

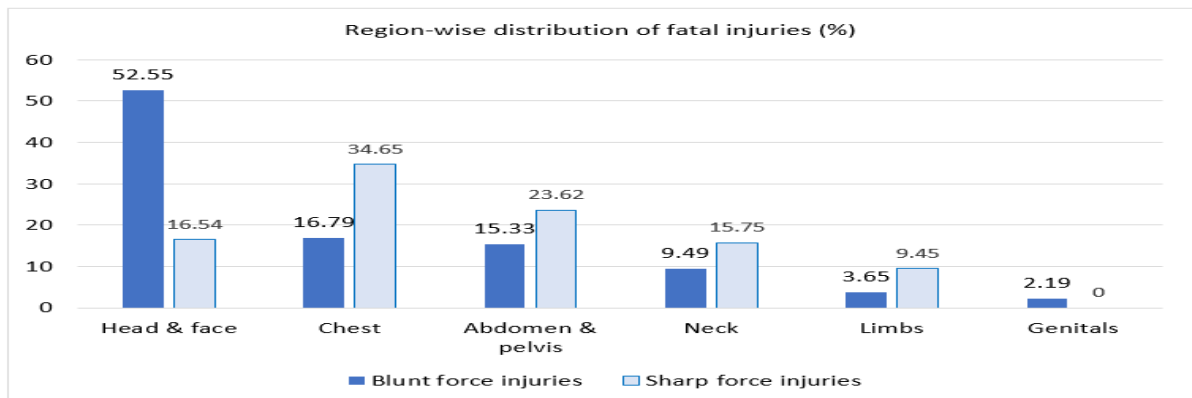


Figure 3: Distribution of fatal injuries on various regions of the body

Blunt force injuries:**Table 2: Distribution of fatal blunt force injuries on various body regions**

		No.	%
Head	Skull	49	19.92
	Brain	64	26.02
Chest	Sternum	3	1.22
	Ribs	17	6.91
	Lungs	20	8.13
	Heart	2	0.81
	Oesophagus	1	0.41
Neck	Neck muscles	27	10.98
	Cartilages & bones	20	8.13
Abdomen	Spleen	6	2.44
	Omentum & mesentery	7	2.85
	Intestine	7	2.85
	Kidney	3	1.22
	Liver	10	4.07
Vertebral column & spinal cord		6	2.44
Limbs	brachial artery	1	0.41
	femur	2	0.81
Genitals	Testis	1	0.41

The head & face, brain, and skull were mostly affected (45.94%). In the chest, the lungs were commonly affected (8.13%), followed by the ribs (6.91%). The liver was the most commonly affected organ in the abdomen (4.07%), followed by the intestines (2.85%) and spleen (2.44%).

Sharp force injuries:**Table 3: Distribution of fatal sharp force injuries on various body regions**

		no.	%
Chest	Lungs & airways	30	15.46
	Heart	12	6.19
	Aorta	10	5.15
	Ribs & sternum	4	2.06
	Pulmonary trunk	3	1.55
Diaphragm		12	6.19
Abdomen	Liver	14	7.22
	Mesentery & omentum	11	5.67
	Intestine	10	5.15
	Stomach	5	2.58
	Kidney	2	1.03
	Pancreas	1	0.52

Continue

Head	Brain	20	10.31
	Skull	17	8.76
	Face	3	1.55
Neck	Neck muscle	12	6.19
	IJV	12	6.19
	Neck cartilages & bones	2	1.03
	Ext carotid artery	2	1.03
	Common carotid artery	2	1.03
	Subclavian vein	2	1.03
	Ext jugular vein	1	0.52
Brachiocephalic vein		1	0.52
Vertebral column & spinal cord		4	2.06
Lower	Femur	1	0.52
Limb	Femoral artery	1	0.52

In the chest, lungs & airways were most commonly affected (15.46%), followed by the heart (6.19%), diaphragm (6.19%), aorta (5.15%), and pulmonary trunk (1.55%) respectively. The liver was the most affected in the abdomen (7.22%), followed by the intestines (5.15%), mesentery & omentum (5.15%), stomach (2.58%), kidneys (1.03%), and pancreas (0.52%). In the neck, the injured structures were strap muscles, followed by the internal jugular vein, cartilages & bones, external carotid artery, common carotid artery, subclavian vein, external jugular vein, and brachiocephalic vein respectively.

Weapons:**Table 4: Types and nature of weapons used**

Type	Weapon	no.	%
Blunt	Metal rod/pipe	24	12.00
	Stomping/kicking	13	6.50
	Granite stone	6	3.00
	wooden rod/plank	8	4.00
	Cement block/brick	5	2.50
	Head hit on the floor	4	2.00
	Helmet	3	1.50
	Vehicular runover	3	1.50
	Spanner	2	1.00
	Hammer	2	1.00
	Garden spade	2	1.00
	Glass bottle	2	1.00
	Torch	1	0.50
	Shock absorber	1	0.50
	Gas cylinder	1	0.50
	Concrete dumbbell	1	0.50

Continue

Sharp	Knife	51	25.50
	Chopping knife	12	6.00
	Sword	9	4.50
	Axe	4	2.00
	Scissors	2	1.00
	Screwdriver	1	0.50
Ligature Strangulation	Electric cable	1	0.50
	Cloth	7	3.50
	Rope	1	0.50
Throttling		15	7.50
Smothering		16	8.00
Firearm		1	0.50
Thermal	burns - diesel	1	0.50
Drowning		1	0.50

Alleged motives behind homicides

In a good number of cases (26.83%), the motive behind the killing was not known. The most common alleged motive was quarrel, in 56 cases (27.32%), closely followed by rivalry in 53 cases (25.85%). Other motives included killing by partner, robbery, financial disputes, hate, ideological conflicts, lust murder, and mental illness.

Table 5: Alleged motives

Motive	no.	%
Quarrel	56	27.32
Not known	55	26.83
Rivalry	53	25.85
Partner killing	20	9.76
Robbery	7	3.41
Financial disputes	6	2.93
Hate	3	1.46
Ideological conflicts	2	0.98
Lust murder	2	0.98
Mental illness	1	0.49
Total	205	

Discussion

8952 autopsies were conducted during the study period. Out of which, homicide cases were 205 (2.29%). According to various authors, the number of homicide cases brought for autopsy varied from 1.76 to 6.94%.³⁻⁹

In our study, the largest number of homicides were reported in April (16.1%) and the least in December (4.39%). 55.62% of cases were during the

first five months, from January to May. Such an observation has not been noted by other authors.

About three-fourths of the victims (72.68%) were males, in our study which is in agreement with studies done in Thiruvananthapuram, Pondicherry, Delhi, Pune, and Bengaluru.^{3-5,7,9} Proportion of males was lesser (58.9%) in Nellore.⁸

We observed that 23.9% of the victims were aged between 31 and 40 years. Victims between 21 to 40 years constituted 45.36% of the total cases. Only 13.66% of victims belonged to the extremes of life, i.e. less than 21 and more than 70 years of age. This is in agreement with a study done by Dileep N et al from the same state.⁴ In the studies conducted in other parts of our country, the commonly affected age group was 21-30 years.^{2,3,5-9}

In this study, 48.36% of homicide cases were due to blunt force injuries and 38.97% were due to sharp force injuries. 11.27% of cases are due to strangulation. Among the blunt force injuries, 52.55% involved the head & face, followed by the chest & abdomen (32.12%). In the head & face, brain, and skull were mostly affected (45.94%). In the chest, the lungs were commonly affected (8.13%). The liver was the most commonly affected organ in the abdomen (4.07%). In the neck, muscles were mostly involved (10.98%). In cases of death due to sharp force injuries, the chest & abdomen were largely involved (58.27%) followed by the head & face (16.54%). The most commonly involved organ in the chest and abdomen were the lungs (15.46%) and liver (7.22%) respectively. In the head & face, brain, and skull were mostly affected (19.07%). In the neck region, strap muscles of the neck and the internal jugular vein were the ones commonly involved (6.19% each).

In most of the studies, blunt and sharp force injuries have been grouped and classified region-wise based on the site of involvement. However, Dileep N. et al observed the following: Head (48.81%) and neck (25%) were the commonest regions affected in homicides due to blunt force trauma, and chest (36.06%), neck (23.08%) was most frequently affected by sharp force injuries.⁴

Metallic rods & pipes were observed to be the commonest blunt weapon (30.77%), followed by stomping & kicking (16.67%). Granite stones, cement blocks, and bricks were used in 14.1% of cases. 3 cases of assault using a helmet and 1 case each using torch, shock absorber of motorbike & cooking gas cylinder

was the rarely used blunt weapons. Knife (64.56%), and chopping knife (15.19%) were the most common sharp cutting weapons. 2 cases using scissors and 1 case of screwdriver were the uncommon instances of the use of household sharp instruments. Out of 24 cases of neck violence, 15 were throttling and the remaining was ligature strangulation. 16 cases of smothering were observed.

Three cases deserve a special mention. (1) A 67-year-old male was killed by his son using a firearm. After being shot in the head, the body was burnt, decapitated, dismembered, and then disposed into a water body. (2) A 32-year-old female was smothered, throttled, and thrown into a water body while unconscious, where she drowned. The alleged perpetrators were her boyfriend. (3) A 34-year-old female who was riding a scooter was knocked by her boyfriend with his car. Then he attacked her with a sword on the back of her neck and set her on fire after pouring kerosene.

As a whole, blunt weapons were used in 78 cases of homicide (39%) and sharp-cutting weapons in 79 cases (39.5%). So both these classes of weapons were used in equal proportion. The use of sharp cutting weapons was predominant in some studies^{2,3,7,9} whereas the predominance of blunt weapons was observed in some others.^{4,6,8}

The majority of the assailants were males (73.91%) and 3.86% were females. Single assailant was involved in 55.12% and multiple assailants in 22.44% of cases. In the majority of the cases, the victim and assailant were not related (34.15%). The assailant was a relative of the victim in 30.24% of cases and a neighbour in 5.85%. In a vast majority of cases, the motive behind the assault was a quarrel (27.32%) and rivalry (25.85%). The killing of spouse/partner amounted to 9.46% of cases. Two cases each of lust murder and ideological conflicts were also observed during this study.

Conclusion

In our study, males aged 21 to 40 years were mostly victimized. Quarrels and rivalry were the reasons for homicide in more than half of the cases. The perpetrator was a person known to the victim in more than one-third of cases. The findings of our study are mostly in agreement with the existing literature on Forensic Medicine. A few variations in the findings of various Indian authors might be due to cultural and geographic diversity as well as some regional factors.

We feel that improvement in living status, proper education, job security, and creating awareness about the ill effects of alcohol and abuse of substances can go a long way in bringing about a change in society. Bringing in harmonious interactions among relatives and neighbours could reduce conflicts and quarrels, thereby reducing the incidence of homicide to a great extent. Marital disputes are another important cause of partner killings. Better interpersonal relationships and creating awareness of not taking dowry can also help in this scenario. Laws should be strictly enforced on the perpetrators to give a message to society which will restrict people from getting into altercations and homicides.

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