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RESEARCH PAPER

Homicide in Sikkim: a 13-year retrospective study

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Lepcha OT[1], Subba M[2], Sharma R[3]

Address for correspondence:

[1]Principle Chief Medicolegal Consultant (Corresponding author)
Department of Forensic Medicine
Mobile: +919933009711
Email: seringokongchen@gmail.com.
[2]Principle Chief Consultant
Department of Biochemistry
[3]Senior Forensic Analyst
Department of Forensic Medicine
STNM Hospital
Government of Sikkim
Pin: 737102

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ABSTRACT

***Background and aims**: It is mentioned in the Bible that the killing of a human by another human is one of the oldest heinous crimes. Presently, the world is facing a rise in the number of homicidal cases due to rapid industrialization, urbanization, unemployment, life stress and drug addiction. The present study aims at determining the pattern of homicidal deaths in Sikkim. **Methods**: The study is a 13-year retrospective study conducted in the Department of Forensic Medicine and Toxicology, STNM Hospital, Gangtok, Sikkim. All relevant information regarding the circumstances leading to homicide has been sought out from the investigating officer/magistrate inquest, complete history, treatment records (if the victim was admitted for treatment) and the final autopsy examination reports. Prior permission was obtained from the institutional research board and the ethical committee. **Result**: Out of the total 2573 autopsies done during the study period, 82 cases (3.1%) were of homicide. The male/female ratio was 2.7:1, with the maximum number of victims 31 cases (37.8%) from the age range of 21-30 yrs. Maximum cases 34 (41%) occurred during the rainy season (July-October), with the winter season (Nov to Feb) recording only 25 (3048%) cases. Blunt weapon trauma was seen in a maximum of 45 cases (54.87%), with 29 cases (35.36%) due to sharp weapons. Eight cases (9.75%), with three males and five females, were due to strangulation. Head was the most common anatomical site in 42 cases (51.21%). East Sikkim district reported 44 cases (53.68%), while the most minor cases were reported from North Sikkim district 5 cases (6.09%).*

***Keywords**: Homicide, Blunt trauma, Sharp force trauma, head injury.*

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INTRODUCTION

As per WHO, homicide is defined as the killing of a person by another with intent to cause death or serious injury by any means. It excludes death due to legal intervention and operations of war. The rate of Homicide increased from 6.2 per 100000 population in 2019 to 7.8 per 100000 in the year 2000.[1] However, compared to other forms of violence, very little attention has been given to homicide despite its consequences to society.[2]

The pattern of homicide varies from region to region. Many factors, such as the method of killing, the availability of the weapon, family relationships, the motive behind the killing, and other social and political factors, influence it.[3] Homicide incorporates "mensrea", the mental element of a person's intention to commit a crime, and "actusreus", actual execution or guilt. Homicide, thus, is not only the death of a human being but also humanity.[4] As per the National Crime Record Bureau (NCRB), violent crimes reported in India were 10.9% of the total Indian

Penal Code (IPC) crimes. The total number of murders recorded in India in 2010 is 33,335 and is said to be increasing every year.

Medicolegal autopsies, when conducted, give a clue and an insight into the cause and the manner of death. The role of a medicolegal specialist is to help in the administration of justice. Investigation of homicide cannot be complete without a meticulous autopsy examination. By studying the pattern of injuries and analyzing the stored records and data, insight into the case can be obtained for formulating prevention strategies for the enforcement agencies.

MATERIAL AND METHOD

The present study was a retrospective study conducted in the Department of Forensic Medicine and Toxicology, STNM Hospital, Gangtok, from January 2010 to December 2023. Permission from the research review board and ethical committee was obtained before the study. A total of 2573 autopsies were conducted, out of which 82 autopsies were found to be homicide.

Inclusion criteria: All homicidal deaths, based on the history of the investigating officer, the relatives and friends and the autopsy reports, were included in the study. **Exclusion criteria:** Putrefied bodies with unknown history were excluded from the study. With the inclusion mentioned above and exclusion criteria, the present study aimed at determining the pattern of homicidal deaths in Sikkim. Ethical clearance was obtained before collecting data from the ethics committee of STNN Hospital.

RESULTS

During the study period from January 2010 to December 2023, it was observed that out of the total 2573 autopsies conducted, 82 cases (3.18%) were homicidal deaths, with an average of 5.85 cases per year. 2012 saw the lowest 1.2% of cases, while 2018 recorded the highest homicide case, 10 cases (12.2%). The average male homicidal death rate was 4.3 deaths, while the female had an average of 1.5 deaths, as is shown in **Table 1**.

Table 1 Yearly autopsy cases of homicide

Year	Autopsy	Homicide	Male	Female
2010	159	5(6.0%)	2	3
2011	124	2(2.4%)	1	1
2012	109	1(1.2%)	0	1
2013	147	7(8.5%)	5	2
2014	140	5(6.0%)	4	1
2015	152	5(6.0%)	5	0
2016	151	8(9.7%)	5	3
2017	152	6(7.3%)	4	2
2018	135	10(12.2%)	8	2
2019	166	7(8.5%)	6	1
2020	179	5(6.0%)	3	2
2021	195	7(8.5%)	5	2
2022	277	8(9.7%)	6	2
2023	287	6(7.3%)	6	0
Total	**2573**	**82**	**60**	**22**

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The study recorded 60 cases (73.2%) of male victims and 22 cases (26.82%) of female victims. The Male: Female ratio was 1: 2.7. as shown in **Figure 1**.

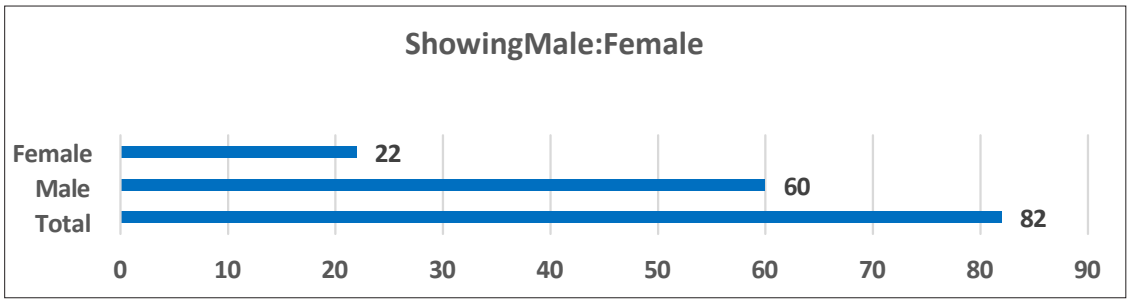

Figure 1 Male and female ratio

Figure 2 depicts the age and sex distribution of the victims. Age group 21-30 years were found to be more affected by 31 cases (37.80%), of which 25 cases (80.6%) were male and 6 cases (19.35%) were females.

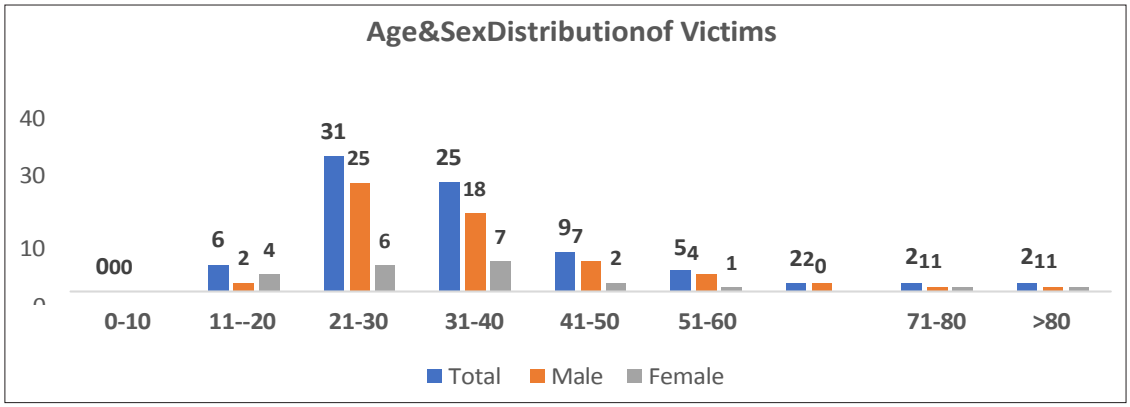

Figure 2 Ageand sexdistributionofvictims

Seasons were broadly divided into three categories: Winter (November-February), Summer (March-June) and Rainy (July-October). It was observed that a maximum number of 31cases (41%) occurred during the rainy season (July-October), followed by 25 cases (30.5%) during the winter months (November-February), with the minimal cases 23 cases (28%) being recorded in the summer months (March-June) as is shown in **Figure 3**.

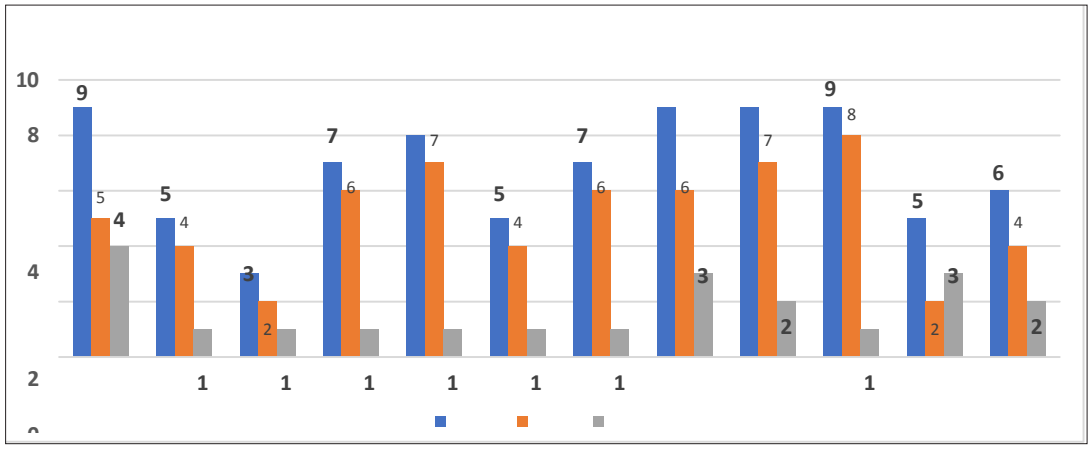

Figure 3 Month and seasonal variation

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In the present study, it was found that a maximum of 45 cases (54.87%) of all deaths were due to assault by Blunt weapons like Stones, sticks and other blunt objects, followed by 29 cases (35.36%) due to sharp weapons like Khukuri, Bamphok, (local machete) sickle and other sharp weapons. Eight cases (9.75%) were a result of strangulation, with five female cases (6.09%) and three male cases (3.65%), as is shown in **Table 2**. There were no cases of homicidal antemortem burns or death due to firearms during our study.

Table 2 Shows different types of involved weapon

Weapon	Total	Male	Female
Blunt	45 (54.87%)	38 (46.34%)	7 (8.53%)
Sharp	29 (35.36%)	19 (23.17%)	10 (12.19%)
Strangulation	8 (9.75%)	3 (3.65%)	5 (6.09%)
Total	82	60 (73.17%)	22 (26.82%)

The head was the most common body part targeted, with 44 cases (53.66%), followed by the abdomen, with 13 cases (15.85%), as shown in **Table 3**.

Table 3 Frequency of homicide according to fatal injuries on body parts

Body Part	Number of Cases (%)
Head	44 (53.66%)
Neck	9 (10.98%)
Chest	12 (14.63%)
Abdomen	13 (15.86%)
Limbs	4 (4.88%)
Back	0 (0%)

East Sikkim district recorded the highest case, 44 cases (53.66%), and North District, with five cases (6.09%), was the least affected district, as is shown in **Figure 4**.

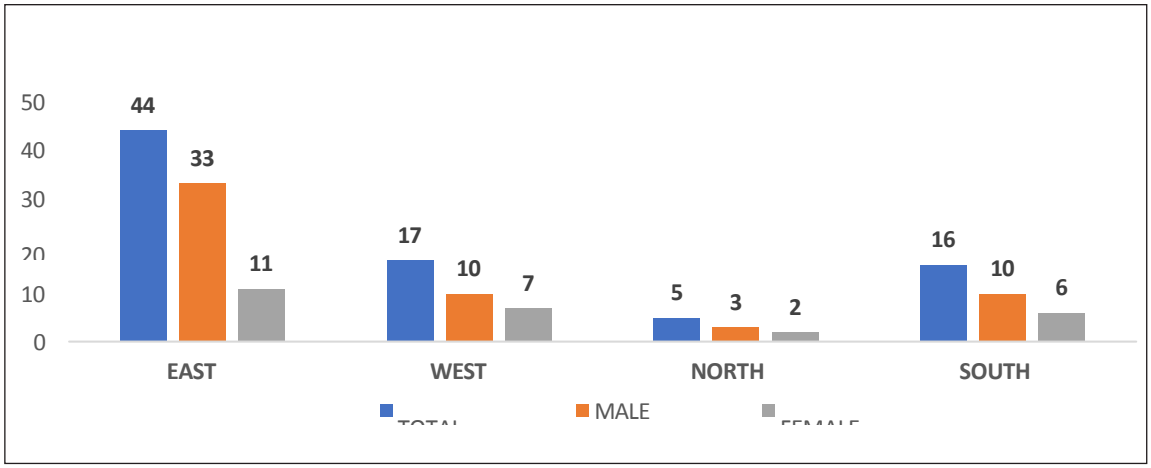

Figure 4 District-wiseincidenceofhomicide cases

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DISCUSSION

Over the years, the incidence of homicide has seen a rise worldwide and also in India, the reasons being probably the fast-increasing population, rapid industry growth, urbanization, high level of unemployment, and the rise of daily stress and frustrations among people. In the present study, homicide incidence was found to be 3.18%, which is lower than studies done in other parts of the country[5,6] and higher than the study of Taware AA, Khade RV et al.[7]

The present study is in sync with the majority of studies conducted where they have found male deaths to be higher than female deaths, which could be because males are more exposed to the external environment, leading to more physical confrontation. Most victims in the present study were from 21-30 years. This finding is consistent with the studies of Ghangale AL et al.,[8] and Sinha US.[9]

In the present study, the maximum cases (41%) occurred during the rainy season (July to October), followed by the winter season (November to February) (30.5%), with the least being in the summer season (March to June) (28%). This finding contrasts the findings of a study of Sam NM,[10] where the highest case is during summer (March to June) and winter seasons (November to February).

Unlike in study,[11] where the highest incidence is due to firearms, the present study recorded no cases relating to homicidal firearms or burns. The sharp weapon was the highest contributor to homicidal deaths in a study by Vij A[2], Karlsson T.[12] In the present study, blunt trauma (54.87%) was the highest, followed by (35.36%) sharp trauma. This finding is consistent with a study on the same topic,[5] where blunt injury was highest and attributed 38.9%.

In the present study, the head was involved in 44 cases (53.66%), which is higher than the study done in another research study.[13] The head remained the most common anatomical structure in the present study, with 44 (53.66%) cases, somewhat similar to a study of Deepak S.[4] The present study concluded that the highest homicide rate was from the East district of Sikkim.

CONCLUSION

Trends of homicide differ from country to country and in India, even from state to state. The current study shows more male involvement than females in the younger age group of 21-40 years, which was also more prevalent during the rainy season. Blunt weapons are heading the list of causative weapons, and the head is a common target part of the body. The different risk factors thus gained during this study period need further analysis to formulate preventive measures. Social, religious and cultural values, along with demographic variables, affect the crime associated with poverty, illiteracy, stress, and mistrust need to be studied further.

Ethical clearance: Obtained.

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Conflict of interest: Nil.

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