

■ ORIGINAL ARTICLE

A Cross-sectional Record-based Study on Homicidal Death Pattern in Bareilly Region, Uttar Pradesh

Shivani Chauhan¹, Rajeev Kumar², Uday Pratap Singh³, Atul Tripathi⁴, Kapil Dev⁵, Atul Abhishek⁶

ABSTRACT

Homicide is considered part of human behavior. Significant number of unnatural deaths have been reported in which tools like ax, hammer, kitchen knife, etc., were used, followed by other assault weapons. They were used by attackers due to their easy availability. Increasing rate of homicides worldwide reveals extreme violence, increased aggravation, lack of patience and mental disturbance in the culprits. The first step toward developing interventions to reduce the impact of homicidal crimes and violence is to study homicidal trends in civil society as it varies from region to region. It is a record based cross sectional study in which all the 137 homicidal deaths out of 151 cases of Bareilly region reported at Division of Forensic Serology, Forensic Science Laboratory, Moradabad, Uttar Pradesh from January 2019 - June 2019, were studied and analyzed. All the suicide cases with improper entry and those killed in police encounters were excluded. Various parameters like relationship of the victim to the accused, method of homicides, sex and gender of victims, category of lethal weapons, motive behind the homicide, place of incident etc., are considered. This research has been conducted with the objective to determine the most commonly used weapons for assault in Bareilly region. Moreover, parameters like determining the most vulnerable victims, age groups, place of incidence, gender, motive, accused-victim relationship, and cause of death behind the homicidal death were considered.

KEYWORDS | homicide, IPC 299, manslaughter, men's rea, actus reus

INTRODUCTION

HOMICIDE BASICALLY IS murder or manslaughter of one human being by Another, either intentionally or unintentionally.¹ Therefore, homicide is classified into two basic categories (i) Legal or lawful include excusable and justifiable homicide. (ii) Illegal or Unlawful homicide include felony murder or killing (Section 299 of IPC). Unlawful homicide basically include (i) Felony murder not amounting to intentional killing and it comes under the section 304 of Indian Penal code 9 (ii) Felony murder amounting to intentional killing and it comes under the section 300 of Indian Penal Code.

Ultimately, mens rea indicates guilty thinking or forethought, whereas actus reus implies planning with actual implementation which is major element for commitment of crime of murder. The major element of mens rea is not present in the culpable homicide offence not amounting to murder but during the conflicts, the offence of felony murder unknowingly committed out of human aggression or vengeance.²

The annual homicide rate prove to be a useful "gold standard" in evaluating the increasing heinous crimes because it is the best indication of social violence. Because homicide is such a serious crime,

Authors' Affiliations:

^{1,6}M Sc Student,

²Associate Professor,
School of Basic and Applied Sciences,
Galgotias University,
Greater Noida 201310,
Uttar Pradesh, India.

³Senior Scientist, ⁴Scientific Officer,

⁵Deputy Director, Forensic Science
Laboratory, Moradabad,
Uttar Pradesh 244001, India.

Corresponding Author:

Shivani Chauhan, M Sc Student,
School of Basic and Applied Sciences,
Galgotias University,
Greater Noida 201310,
Uttar Pradesh, India.

Email:

chauhanshivani3056@gmail.com



How to cite this article

Shivani Chauhan. A Cross-sectional
Record-based Study on Homicidal
Death Pattern in Bareilly Region, Uttar
Pradesh. Indian J Forensic Med Pathol.
2021;14(2 Special):216-222.

it attracts the attention of both the police and the general population. As a result, police agencies must be concerned about the availability and provision of fatal weapons, and strict preventive measures must be undertaken, such as changes in social, economic, moral, and academic status.

Homicide is becoming increasingly widespread all over the world, and the pattern is shifting dramatically due to rising population, changing lifestyles, modern man's requirements, and the ease with which it can be committed with the use of unconventional/improvised tools that are easily available in our surrounding.³ According to the NCRB report for 2019, 51.56 lakh cognizable crimes were registered in 2019, including 32.25 lakh IPC crimes and 19.30 lakh Special & Local Laws (SLL) crimes, of which 10.5 lakh were crimes against the body (intentional and unintentional murder).⁴

The first step toward developing interventions to reduce the impact of homicidal crimes and violence is to study homicidal trends in any civil society. Also the availability of items that can be used as weapon, motive behind homicide, social, cultural and economical factors and the injury pattern influence the accountability of the assailant responsible for forming the particular trend of homicidal death in any particular region or geographical area. Therefore, to exclude and identify the mentally disable offender and habitual criminals data on the cause, age, gender involved, and weapon used, as well as other demographic studies, are required to achieve the objective of a peaceful society.

Previously no research has been conducted on the fatality profile of homicidal incidences from this specific region, the current study was conducted for the evaluation of homicidal trends regarding various parameters such as victim-accused relationship, method of homicide, sex and gender of victim, weapon used, motive for homicide, and location of homicide, cause of death etc. Moreover this study aimed at determining the most commonly used weapon for fatal/life threatening injury in the study of the geographical region.

METHODS

This study was conducted in the Division of

Forensic Serology, Forensic Science Laboratory, Moradabad, Uttar Pradesh, over a period of 6 months, from January 1st - June 30th, 2019). A total of 151 incidents were reported for forensic examination by police stations from several districts of the Bareilly region with 137 of them satisfying the exclusion-inclusion criteria. The institutional ethical committee got ethical clearance prior to the conduct of study.

Source of Information

All descriptive data were collected from inquest and post-mortem reports. Firstly, basic information like victims' age, gender, location and time of occurrence of crime, motive behind homicide, and victim-offender relation were collected through inquest report. The data on the type of weapons from injury pattern were obtained from post-mortem report. All details were thoroughly analyzed, interpreted, and conclusions were obtained. The obtained observations and conclusions were compared to the previous study conducted by other authors and thus graphs and pie charts are used to show the behavior of data. Throughout the study, identity of the victims was kept secret for privacy.

Data analysis was done using data analysis software. An MS Excel spreadsheet was used to store the information and the statistics was obtained like percentage, frequency and proportion.

Inclusion Criteria

The investigating officer suspected and confirmed homicide instances of murder victims. Post-mortem examinations have led to the suspicion of homicide. The study also included infanticide cases.

Exclusion Criteria

Suicide cases with improper entry or cases involving police encounters.

Deaths due to non-mechanical mode like poisoning, drowning, etc., were excluded.

RESULT

During the study period it was observed that out of 151 cases, 137 cases (90.72 %) were due to mechanical injuries by sharp and blunt weapons, as well as firearms. The current investigation reveals that male victims outnumber female victims in 97 cases (70.81 %). with the female victims 40 case (29.19%).

S.NO.	TIME OF INCIDENT	NO. OF CASES	PERCENTAGE (%)
1	Morning (6am - 12Noon)	9	6.57
2	Afternoon (12Noon - 6pm)	28	20.44
3	Evening (6pm - 12Midnight)	54	39.42
4	Late Night (12Midnight-6am)	30	21.90
5	Unknown	16	11.68
Total		137	100

Table 1 Arrangement of reported cases based on time at which homicide incidents took place

SL.NO.	METHOD	MALE	FEMALE	TOTAL	%
1	Hard and blunt tool	23	12	35	24.14
2	Sharp penetrating light tool	39	11	50	34.48
3	Heavy sharp pointed tool	11	5	16	11.03
4	Firearms	24	6	30	20.69
5	Strangulation	4	7	11	7.59
6	Throttling	2	1	3	2.07

Table 2 Arrangement of reported cases based on homicide mode versus gender of victim

SL.NO.	MOTIVE	TOTAL	PERCENTAGE
1	Revenge/Petty Quarrel	46	33.57
2	Argument/Personal dispute	22	16.06
3	Not known	18	13.14
4	Financial/Property conflict	14	10.22
5	Sudden provocation	8	5.84
6	Love affair	7	5.11
7	Mental illness	7	5.11
8	Dowry related	6	4.38
9	Family dispute	6	4.38
10	Rape	3	2.19
Total		137	100

Table 3 Arrangement of reported cases based on supposed intention behind homicide

SL.NO.	METHOD	MALE	FEMALE	TOTAL	%
1	Victim's home	18	23	41	29.93
2	Roadside/Riverside	22	6	28	20.44
3	Agriculture field	13	2	15	10.95
4	Temple/Masjid premises	8	0	8	5.84
5	Assailant's home	6	1	7	5.11
6	Forest	6	1	7	5.11
7	Street	5	2	7	5.11
8	Workplace/Market place	8	0	8	5.84
9	Open field/Plot/Garden	4	2	6	4.38
10	Peripheral Lonely Place	4	1	5	3.65
11	Marriage tent premises	1	0	1	0.73
12	Not Known	3	1	4	2.92
Total		96	41	137	100

Figure 4 Arrangement of cases based on crime location as per inquest report

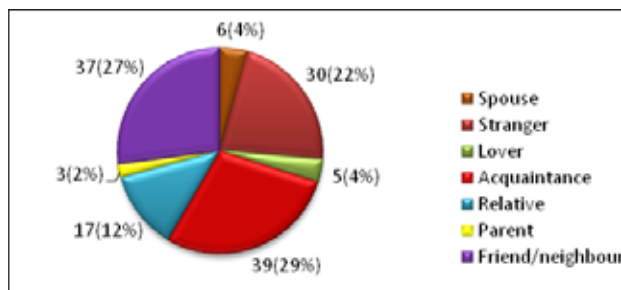


Figure 1 Time of Homicide Occurrences

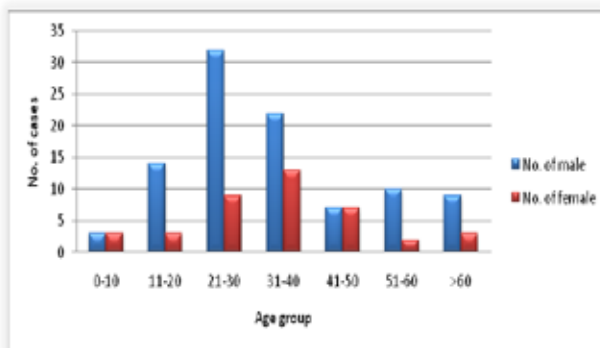


Figure 2 Time of Homicide Occurrences

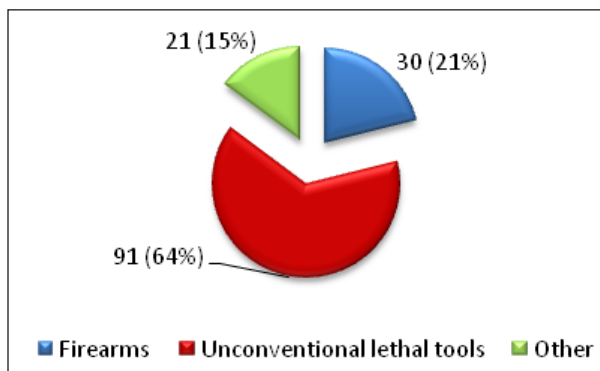


Figure 3 Time of Homicide Occurrences

Time of Homicide Occurrence (Table 1)

The number of homicidal deaths was found to be highest in the evening (6pm-12midnight), with 54 cases (39.42 %), followed by late night (12midnight-6am), with 30 cases (21.90 percent). In 16 cases, the exact time of occurrence is uncertain/unknown (11.68 %). The morning had the fewest cases i.e. 9 (6.57 %), indicating that homicide was more likely throughout the night.

Homicide Distribution by Gender (Table 2)

Light and sharp piercing objects were found to be the most generally approached homicide mechanism in 50 cases (34.48%), followed by

hard and blunt objects in 35 cases (24.14 %). In 30 cases (20.69%), firearms were employed, heavy sharp pointed tools/items were used in 16 cases (11.03%), strangulation was used in 11 cases (7.59%), and throttling was used in one case (2.07 %). Light and sharp penetrating object was the most common means of homicide among males, with 39 cases (37.87%), followed by firearm in 24 cases (23.30%), and hard and blunt tools/items 23 cases (22.33 %). Hard and blunt object 12 cases (28.57 %) were the most common homicide mode observed in females, followed by light and sharp penetrating tools/items 11 cases (26.19 %), strangulation 7 cases (16.67 %), firearm 6 cases (14.29 percent), heavy sharp pointed tools/items 5 cases (11.90 %), and throttling 1 case (2.38 %).

Motive behind Homicide (Table 3)

The most common reason for homicidal death was vengeance/petty quarrel in 46 cases (33.57 %), followed by dispute in 22 cases (16.06 %), and financial/property conflict in 14 cases (10.22 %). In 18 cases, the intention was unknown (13.14). Love affairs and mental illness were the suspected motives with the same number of homicide cases (7.11%), followed by dowry-related and family disputes with each 6 cases i.e. (4.38 %). Rape was linked to the fewest number of homicide incidents 3 cases (2.19%). In 8 cases, homicidal death was caused by a sudden provocation (5.84%).

Location of Homicide (Table 4)

The highest occurrence (29.93%) occurred inside or near the Victim's home, followed by incidence along the roadside/riverside (outside), i.e. (20.44%). The majority of incidents involving female victims occurred in or around their residences (57%). Males had the highest occurrence (22.91 %) on the roadside/riverside (outdoor), followed by (13.13 %) on the inside or near the Victim's home. Because most interactions take place at home or outside, these were the primary venues of homicidal acts in our study. Due to cultural and religious beliefs, females are less involved in conflicts, according to this study

Age & Gender based Distribution of Cases (Figure 1) According to the findings, the age range 21-30 has the highest number of victims (29.9%), along with the age group 31-40 with 35 cases (25.54 percent). This study includes victims who have been killed within less than a year (infanticide). 55.4 % homicides were occurred in age group 21-40 years, however least and the same number of victims age group were found in 51-60 and >61 years with each 12 case (8.75%) concluding that victims in this age group 20-30 are least tolerant which leads to arguments and scuffle and ultimately end to crime of homicide.

Offender-Victim Relation (Figure 2)

In the majority of cases, the accused was acquaintance 37

(28%) of the victim, followed by a friend/neighbor 37 (27%) and a stranger 30 (22%) of the victim. In the fewest situations, parents 3(2%) of victims were discovered. An acquaintance in this research is someone that one person recognizes but doesn't know personally. In this study, acquaintances include a shopkeeper, a peasant, an office worker, a criminal gang, a local eccentric person, and a factory owner, etc. This demonstrates that the attacker was well-known to the victim, and that the criminal took the victim's life out of vengeance.

It was discovered that in the majority of cases, unusual household/domestic instruments (91%) were used to commit homicide. In 30 cases (21%), firearms was used for causing grievous hurt. Least number of homicide cases, were observed with other category of weapons 21 case (15%). Unconventional tools like *hathoda* (ax), *hasiya* (sickle), *bhallam*, spade, *kodal*, kitchen knife, gas cylinder, sword, *gupti*, *vasula*, *nidaal*, scissor, *gandasa* (chopper), and other agriculture/domestic/household equipment were included in the study. Cement tiles, sugarcane, stone, bamboo stick, brick, iron rod, and other weapons fall under "Other" weapons group.

DISCUSSION

In the current research based study total 151 cases were reported out of which 137 were of homicides due to mechanical injuries. (i.e. by sharp, blunt weapons and firearms) accounting for 90.72% of total reported unnatural death cases over period of six month i.e. Jan 2019 to June 2019. The tendency of homicide in males was higher 70.80% as compared to female victims 29.19% which was 7:3. This tendency of homicide was less in female due to cultural and religious reasons.

Findings of our study shows that majority of the homicidal incidences took place during evening 54 cases (6pm-12midnight) and late night 30 cases (12midnight-6am). Reason may be that chances of assailant being recognized were less and the execution of crime and escape for the assailant become easy. Secondly, as the study shows the males outnumber the female victims so there may be chances that males usually consume alcohol in night or evening hours due to which they engage in arguments due to mental illness or disorder which

ultimately leads to homicide. Similar observations were made in studies conducted by other^{3,5} in which frequency of homicidal incidence was maximum during the night and evening hours. Our study is in contrast to studies conducted by Vougiouklakis T *et al.*,⁶ where in maximum (26.9%) of crimes occurred during noon. The frequency of homicide was higher during the day time (74.55%) in a study conducted by Vijayakumari N *et al.*⁷ The present study found that the commonest type of weapon used was light sharp penetrating weapons in 50 cases (34.48%) followed by hard and blunt objects in 35 cases (24.14%). The observation goes consistent with the study of Dhaval J. *et al.*^{8,3,9,10}

The use of only light and sharp penetrating objects points towards premeditated/planned crimes with motive of robbery, revenge, or property/financial dispute. The findings were in contrast with study of Prashant Mada *et al.*,^{11,12,13} where common weapon of choice was hard and blunt weapons. Exclusive use of hard and blunt weapons for homicide could be an unplanned/unpremeditated offensive/ confrontational reaction of a person to abrupt and dangerous provocation in dispute. The most common motive of homicides was petty quarrel/vengeance indicates that homicides were not predetermined and planned but due to less tolerance level and sudden provocation it ends up with homicide. Our observations and findings goes consistent with Shiva Kumar *et al.*,¹⁰ (32.5%) and Dhaval⁸ (29.4%), B. C. whereas financial issues were found to be the major cause behind homicide by Sinha *et al.*¹⁴

As per our findings, the victim's home was the commonest place of homicide 41 cases (29.93%), as most of the interaction takes place at the home and secondly accused and victim are well acquainted with each other so they accounted as most frequent sites of murderous acts. Our findings are similar with that of Rodge.S *et al.*,^{22,3} whereas it differs with the study of Dhaval J. Patel *et al.*,^{23,10,21,24} where outdoors was the primary site of homicidal act. Other location of crime recorded during study was street, forest, garden, agriculture field, open plot, marriage tent premises, temple/masjid premises etc. In our study, the injuries were most commonly seen over the head and face (30.4%), followed by chest (25.2%). The observation goes similar with the Gemechu T. *et al.*^{25,16,19,21,26,14} The most used

weapons were sharp and light penetrating weapons (34.48%).

Present study shows the predominance of victims of age group 21-40 which comprises of more than 55% of cases. Maximum involvement of 21-40 years young people may be due to the fact that people in this age group are more aggressive, impatient, and less tolerant, which leads to arguments and scuffles, which eventually leads to homicide. The study shows overall predominance of male victims which is consistent with study of Shailesh Jhaveni *et al.*^{31,32,11,8,15,17,18,3} In most of the homicides offenders were acquaintance 39 cases (29%) followed by friend/neighbor 37(27%). In all 17 relative homicides the offender was the male. Our finding were consistent with the observations made by Mohanty M.K.⁵ 20(29%) of the perpetrators who were identifiable were usually an acquaintance of the victims and is in contrast to other^{23,14} where in the stranger committed maximum number of homicides. This shows that the offenders have some personal issues and victim accused are closely related to each other due to which they take vengeance. In all the studies conducted worldwide by researchers^{27,29,28,30}, the weapons were classified as sharp or blunt weapons but in this study we have focused on the various unconventional household/domestic tools which have been used in this area for homicide like ax, kitchen knife, sword, hammer, ice picks etc. These weapons had been the rising headlines of all the newspapers but no researchers had focused on main reason for the usage of these easily available weapons. It was found during the study that in majority of the cases 91 (64%) unconventional household/domestic weapons including domestic, agriculture, household, personal belongings tools or items etc. are used out of psychological mental disorder to fulfill the revenge to commit planned/unplanned murder.

Limitations

This study was confined to specific region/area and the findings were based on documentary data (Inquest report and PM report) and information present in the respective reports submitted by the investigating officer during the autopsies of the dead bodies. Crime scene was not visited in any of the studied cases.

CONCLUSION

From the above findings, it can be concluded that social and demographic factors have an impact on homicide and homicide were the consequence of quarrels and scuffles between the parties involved. Nobody has the right to take the life of other. This youth victims are more aggressive and impatient therefore effective anger and stress management through mental psychotherapy may minimize homicide rates in this age group. Homicide reduction will be aided by socioeconomic well-being, poverty elimination, and more work possibilities. Children should be taught in schools the importance of ethical and moral ideals, which will aid in the formation of human interactions. Like other countries the strict provisions should be made in India for restricting the possession of lethal unconventional/unusual tools at the public places or buildings. **IJFMP**

Acknowledgement: This research is a result of a dedicated effort. Firstly, I would like to thank Kapil Dev (Deputy Director FSL, Moradabad, Uttar Pradesh) for giving me permission to take training at State FSL, Moradabad, Uttar Pradesh, a prestigious government organization. I am very thankful to my guide Dr. Uday Pratap Singh (Senior Scientist, FSL, Moradabad) for his able guidance and support and giving me permission to use this database for my work. I would like to express my special thanks to Dr. Rajeev Kumar for providing me all the guidance and for his keen interest at various level of this research project.

Ethical Clearance: Taken from Institutional Ethics Committee FSL, Moradabad, Uttar Pradesh.

Conflict of Interest:

The author declares there is no conflict of interest in this project.

Source of Funding:

The author declares that there is no funding for this project.

REFERENCES

- Narayana Reddy K. S.** "The Essentials of Forensic Medicine and Toxicology" Medical Book Company, Hyderabad, 2010 29th ed:259 - 60.
- Parikh C.K.** Parikh's Text Book of Medical Jurisprudence, Forensic Medicine and Toxicology for Classrooms and Courtrooms, CBC Publishers and Distributors, New Delhi, 1990 6th Ed: 2.1pp, 3.51pp, 4.23pp.
- Hungar BS, Chandra GYP, et al.** "Pattern of Homicidal Deaths". J Indian Acad Forensic Med 2010;32(3):194p.
- No author listed.** National Crime Record Bureau (NCRB). Crime in India; 2019 Available: <https://timesofindia.indiatimes.com/india/ncrb-crime-data-2019>; Cited on 30th April-2020.
- Mohanty MK, Kumar TSM, et al.** "Victims of Homicidal Deaths - An Analysis of Variables". J Clin Forensic Med. 2005;Dec;12(6):302-4
- Vougiouklakis T, Tsiligianni C.** "Forensic and Criminologic aspects of murder in North-West (Epirus) Greece". J Clin Forensic Med. 2006 Aug;13(6-8):316-20.
- Vijayakumari N, Magendran J, Meiyazhagan K.** "Pattern of homicidal deaths at a tertiary care centre, Chennai-A prospective study". Indian J Forensic Med Toxicol. 2013;7:121-4
- Dhaval J. Parmar1, Love R. Bhagora. Kajal M. Suvera et al.** "Recent trends of homicidal deaths in Bhavnagar region-two-year retrospective study".IAIM, 2015; 2(8):45-54.
- Sachidananda Mohanty, Sujan Kumar Mohanty, Kiran Kumar Patnaik** "Homicide in southern India—A five-year retrospective study" Forensic Medicine and Anatomy Research 2013;1:18-24
- B. C. Shivakumar, D. Vishwanath, Prem Chandra Srivastava,** "Trends of Homicidal Deaths at a Tertiary Care Centre Bengaluru." J Indian Acad. Forensic Med. 2011;33, (2):120-124
- Prashanth Mada, P. Hari Krishna.** "A Comprehensive Study on Homicidal Deaths in Hyderabad" J Indian Acad. Forensic Med. 2013; 35(4):312-316.
- Ashok K. Rastogi, Bajrang K. Singh, Sanjay K. Dadu, et.al.** "Trends of Homicidal Deaths in Indore (M.P.) Region -One Year Retrospective Study." J Indian Acad. Forensic Med.2013; 35(4):343-345
- Dhiraj Buchade, Shailesh Mohite.** "Pattern of Injuries in Homicidal Cases in Greater Mumbai - Three Year Study" J Indian Acad. Forensic Med. 2011; 33(1):46-49
- Sinha US, Kapoor AK and Pandey SK.** "Pattern of homicidal deaths in SRN Hospital's mortuary at Allahabad". J Forensic Med Toxicology, 2003;20(2):33-36.
- Murthy OP, Agnihotri AK.** "Homicidal deaths in South Delhi". J Ind Acad Forensic Med. 2000;22(1):9-11
- Sheikh MI, Subramanyam BV.** "Study of homicide in Surat with special reference to changing trends". J Forensic Med Toxicol. 1995;12(1,2):8-15
- Aggarwal NK, Bansal AK.** "Trends of homicides in capital city of India. Medico-legal update". 2004;4(2):41-5.
- Gupta BD, Singh OG.** "Trends of homicide in and around Jamnagar region of Gujarat, India - a retrospective study of 5 years". J Forensic Med Toxicol. 2007;24(2):6-11
- Mittal S, Chanana A, Rai H.** "Blunt force injuries in culpable homicides". Int J Med Toxicol Legal Med. 2007;10(1):27-9
- Gupta S, Prajapati P.** "Homicide trends at Surat region of Gujarat, India". J For Med Toxicol. 2009;26(1):45-8
- Rekhi T, Singh KP, Nabachandra H.** "Study of homicidal blunt force injuries". J For Med Toxicol. 2007;24(2):3-5.
- Rodge S, Hougen HP and Poulsen K.** "Homicide by blunt force in two Scandinavian capitals". Am J Forensic Med

REFERENCES

- Pathol 2003;24(3):288–291
23. **Dhaval J Patel.** "Analysis of homicidal deaths in and around Bastar region of Chhattisgarh". *J Indian Acad Forensic Med.* April-June 2012;34(2):139-42
 24. **Mohanty MK, Mohanty S, Acharya S.** "Circumstances of crime in homicidal deaths". *Medicine, science and the law.* 2004 Apr;44(2):160-4.
 25. **Gemechu T, Tinsae M, Ashenafi S, Rodriguez VM, Lori A et al.** "Most common causes of natural and injury-related deaths in Addis Ababa, Ethiopia". *Pathol Res Pract.* 2009;205(9):608-14
 26. **Sharma GK, Sarangi MP, Tyagi AK, Kumar B.** "Medicolegal interpretation of stabbing and cutting injuries (An autopsy study)". *J Forensic Med Toxicol.* 1994; 11(1):21-4
 27. **Kohli A, Aggarwal BBL.** "Pattern of murder cases in north east Delhi". *J For Med Toxicol.* 1996; 13(1): 36-8.
 28. **Thomsen J, Albrektsen B, Soren, Aalund O, Breiting B, Jacobsen J et al.** "Injuries due to deliberate violence in areas of Denmark II. Victims of homicide in Copenhagen area". *Forensic Sci Int.* 1989;40:291-7.
 29. **Hougen HP, Rodge S, Poulsen K.** "Homicides in two Scandinavian Capitals". *Am J Forensic Med Pathol.* 1996;20(2):293-9
 30. **Ghangale AL, Dhawane SG, Mukherjee AA.** "Study of homicidal deaths at Indira Gandhi Medical College, Nagpur". *J Forensic Med toxicol.* 2003;20(1):47-51
 31. **Dasgupta SM, Tripathi CB.** "A study of homicidal cases occurring in Varanasi area". *Indian Medical Gazette.* 1983;VII:285-8
 32. **Shailesh Jhaveri, Sandipraloti, Rajesh Patel, Jignesh Brahbhatt, Vijay Kaushik** "Profile of homicidal deaths: a three-year study at Surat Municipal Institute of Medical Education and Research during 2011-13." *National Journal of Community Medicine* 2014;5(4):406-409