CHAPTER-1

Introduction

Life and death are the two sides of a coin. When there is birth, death is inevitable. While there is only one way to be born, there are many ways to die. Premature death due to disease process is acceptable but deaths as a result of violent crimes are unacceptable to the society.

Homicide is defined as killing of one human being by another human being. Unlawful killing of human being is murder (S.300 IPC). Culpable homicide cases may be amounting to murder (S.299 IPC) or not amounting to murder (S.304 IPC). Culpable homicide intended death (S.301 IPC). Homicide with negligence (S.304(A) IPC). Punishment of murder (S.302 IPC) is death or imprisonment for life and also fine.

Violent crimes like murder, dacoity, kidnapping and riots, abduction are nowadays frequently encountered. Among the violent crimes affecting life, homicide/murder is the most heinous crime under law. Homicide (homos: human being, caedere: to kill) literally as destruction of human life by the act, agencies, procurement or culpable omission of some other person or persons. Such activities instill a sense of insecurity and fear in the community and disturb peace and harmony in the society.

Cases of homicidal death are increasing; this is probably due to rapidly increasing population, urbanization, poverty, unemployment, frustration, illiteracy, prevalent, economic, social and political environment, insurgency, terrorism, drug addiction, easy availability of weapon, and the widening gap between the rich and poor.

An injury is any harm, whatever illegally caused to any person in body, mind, reputation or property, this is the definition of injury according to Section 44 of IPC. Medically a wound or injury is a break of the natural continuity of any of the tissues of the living body. The following are the types of injuries:-

- Abrasions
- Contusions (Bruises)
- Lacerations
- Incised Wounds
- Chop wound
- Stab or Punctured Wounds
- Self-Inflicted and Fabricated Wounds
- Firearm Wounds
- Bomb explosion Wounds

Fig 1.1: Abrasion

Fig 1.2: Contusion (Bruise)

Fig 1.3: Laceration

Fig 1.4: Incised wound

Fig 1.5: Chop wound

Fig 1.6: Stab or punctured wound

Fig 1.7: Fabricated wounds

Fig 1.8: Firearm wound

Fig 1.9: Bomb explosion wound

CHAPTER-II

LITERATURE REVIEW

2.1 Sachidananda Mohanty, Sujan Kumar Mohanty, Kiran Kumar Patnaik, 2013 - Research topic was ".Homicide in southern India – A Five year retrospective study".

They found that the potential risk factors and susceptible victims. Their retrospective study analyses the data of 590 cases. Their study revealed that the victims were mostly males of 21-30 years, married (63.56%), illiterates (44.07%), low socioeconomic status and belong to rural areas. The laborers and farmers were almost equally affected in males and housewives in females. Outdoor incidents were more (61.86%). Majority victims were innocent (82.20%) with no previous history of cognizable offence. Blood alcohol was found positive in 30.23% of victims. Sharp cutting weapons were mostly used, with hemorrhage and shock being the most common cause of death. Most victims had injuries over multiple body parts. Some potential risk factors and their preventive measures pointed at the end.

2.2 Rajeev Kumar, 2013. - Research topic was "Study of the pattern of homicidal deaths in Varanasi region of India".

Their study comprised homicidal deaths in Medicolegal autopsies held in the mortuary of the department of Forensic Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi, U.P., India, during the period from 1st July 1999 to 30M Nov. 2000. It was observed that 23.01 % of total autopsies were homicidal death and 4.73 % were homicide by firearm and explosives. Maximum victims of homicides was due to firearm injury constituting 18.10 percent of total homicides. This was followed by sharp weapon (17.69%), blunt weapon (16.87%) and as asphyxiation (16.46%). Burning was the causes of 16.04 per cent and drowning in 4.54%.Mixed weapon /method was responsible for 4.11 per cent of homicide, poisoning (3.73%) and explosive (2.46%). It is to be observed that firearm and explosive together comprised 20.56 per cent of total homicide. Age and sex distribution of victims of homicide by fire arm and explosives. It is observed that most of the victims (94%) were male and only few victims (6%) were female. Over majority (62%) were young adult in the age group of 21-40 years.18 % victims were of middle age (41-50 years). Adolesecents comprised 10 %. Only 2 % of victims were old aged, 61 Years and above. There were two female victims in the age groups 31-40 years and one victims in the age group of 0-10, 11-20,41-50 and 61 and above. Most of the victims (93%) of homicide by firearm and explosive were Hindu followed by Muslims (5%) and Sikhs 1% Religion of one victim could not be ascertained. Over majority 51.61% of Hindu victims belonged to upper caste followed by lower casts 40.86% and schedule casts. There has been a phenomenal rise in the use of firearms and explosives for committing various crimes leading to death of victims. This spurt in its use may be attributed to the deteriorating socio-economic, and law and order situation as also easy availability of both licit and ilicit as well as improvised or country made firearms and bombs all over India.

2.3 Sachin Gadge, KU Zine, AK Batra, SV Kuchewar, RD Meshram, SG Dhawane, 2006-2008. - Research topic was "medicolegal study of homicide in and around GMC Aurangabad".

Their study highlights the different aspects of RTA victims whose autopsies were perform in NRS Medical College, Kolkata.

2.4 Dr. Ss Oberai, Dr. Satinder Pal Singh, Dr. KK Agarwal, Dr. DS Bhullar, Dr. Akashdeep Agarwal, Dr. DS Walia And Dr. AS Thind. - Research topic was "Profile of fatal assault cases in Patiala".

Their study comprised of 100 assault cases presenting to the casualty department of our institution from January to December 2011. The most common age group affected was 21-30 years (36%). Males constituted 78% cases and females were the victims in 22% cases and the male to female ratio was 3.54. Most of the victims belonged to rural areas (57%) and the rural/urban ratio was 1.7. Educationally, most of the victims were illiterates (39%) while the most common occupation was found to be labourer (38%). Blunt weapon was found to be most frequently used (65%). The most frequently affected region of the body was head & neck (71%). Multiple injuries constituted the largest group (51%) while bruise was the single most common type of injury observed (15%).

2.5 Ashok K Rastogi, Bajrang K Singh, Sanjay K Dadu, Pramendra S Thakur, Anil K Lanjewar, Prasanth P Rajput, 2013. - Research topic was "Trends of homicidal deaths in Indore (M.P.) Region one year retrospective study".

Their study was done in Department of Forensic Medicine and Toxicology, Mahatma Gandhi Memorial Medical College, Indore (MP) from January to December 2012. Out of total 1931 post-mortem conducted in 2012, 82 cases were alleged homicidal in nature. Purpose of their study was to know the cause of death, pattern of weapon used for homicidal purpose, gender distribution, age distribution and seasonal distribution in homicidal death. Males were victim in 78.95 %(64) of cases and females in 21.05 %(18) of cases included in our study. In present study 64.63% (53) of total victims were in age group of >18-40 years. Most of the cases, 46.34% (38) were seen in summer (March-June) season. Most common cause of death was haemorrhage and shock 46.34 %(38) followed by asphyxia and cranio-cerebral injury 20% each. Blunt weapons were most commonly used for homicidal purpose 31.71% (26). No case of homicidal death was seen in female by fire arm. Maximum number of autopsies were conducted on Thursday 20.73%.

2.6 Grellner, W., Buhmann, D., Giese, A., Gehrke, G., Koops, E., & Püschel, K. (2004). – Researc topic was "Fatal and non-fatal injuries caused by crossbows".

Today in modern times, traumatic injuries caused by crossbows are a rarity. The largest collection of cases so far is presented in this study, consisting of four fatalities (two homicides and two suicides) and two non-fatal injuries (grievous bodily harm and an accident). All the victims were male having an age between 31 and 54. The weapons, which

were used, were mainly high-performance precision crossbows with telescopic sights and hunting bolts. The parts of the body involved were the facial/head area in three of the cases and the thorax in three of them. There were either deep or total penetration injuries to the cranium and thorax with the bolt remaining in the wound in four out of six cases. The persons with non-fatal crossbow injuries exhibited comparatively few symptoms, despite the sometimes extensive involvement of the interior of the cranium (cerebrocranial penetration, in one instance). The two cases of suicide favoured the body areas often found with gun-users. The aetiological classification of crossbow injuries may be difficult after the removal of the bolt. The external morphology is strongly dependent on the type of tip used. Multiple-bladed hunting broadheads produce radiating incised wounds, whereas conical field tips produce circular to slitlike defects. Correspondingly, the external injuries can be reminiscent of the effects of a violent attack by sharp force or of a gunshot wound. The possibility, supported by clinical data, that the victim might have the ability to act or even to survive for a period of time, even with penetration of the brain, should be taken into account when the cause of death is being investigared.

2.7 Atal DK, Naik SK, Das S (2013). – Research topic was "Hurt & Grievous Hurt in Indian Context".

A doctor posted in the Accident and Emergency Department or casualty very often deals with injury cases either come for treatment or those brought by the police. Though injury may be accidental, suicidal, homicidal or self inflicted, when there is allegation or suspicion of assault, the medical officer besides treating the patient, is legally bound to examine and opine regarding injury in the prescribed pro forma i.e. Injury report for the aid of investigating police agency and administration of justice in the court of law. However, as the promptness of police action against the alleged accused person who may also bear some vital evidence to the alleged incidence, lies with the seriousness of injury (nature of injury). Thus medical officer has to opine whether the bodily injuries found on the alleged victim are simple or grievous. Though sec 320 IPC enumerates grievous hurt, medical officer dealing such cases found it difficult in more than one occasion to conclude his/her opinion regarding the nature of injury. The present paper is an attempt to minimize their dilemma.

2.8 S. M Hardikar, A. N Waknis, (1981). – Research topic was "Train Accident Injuries- A Study Of 97 Cases".

Their paper presents a series of 97 cases who were involved in railway accidents and either died or sustained gruesome injuries. Many were passengers and some workmen of the railway. The present study is limited only to passengers who sustained injuries due to their own mistakes or due to mistakes of other people, and to railway workers working without due care and attention in the railway premises. Other types of railway accidents such as carriages on fire or collision of trains have not been included in the present series. The study of train accident injuries was undertaken in view of : i) Vulnerability of passengers or railway workers, ii) Vulnerability of commuters crossing railway lines; iii) Grevious injuries sustained in great majority of the patients, who ended up with disabilities.

2.9 Dr.Suhail Rafiq, Dr.Fahad Shafi, Dr.Adil Sangeen, Dr. Suhail Rehman (2019). – Research topic was "Lung injuries on computerized tomography due to pellet gun".

Pellet gun used by law enforcement agencies have the potential to cause grevious or life threatening injuries as metallic projectiles fired at high speeds from pellet gun have potential to damage air containing organs like lungs which occupy a large portion of chest cavity and lie in close approximation to chest wall. Thoracic injury overall is the third most common cause of trauma following injury to the head and extremities. Objective. The objective of this study was to evaluate lung pellet gun injuries in patients of a conflict zone by a so called non-lethal weapon. Methods. The study was conducted in post graduate department of Radiodiagnosis and Imaging, Government Medical College, Srinagar Jammu and Kashmir. Our study was performed between the 6th January 2019 to the 22th May 2019. A total of 40 patients with pellet injuries were taken up for study. Inclusion criteria were patients with pellet gun injuries without any immediate life threatening injury like head injury; patients willing to be part of study. Radiographs of all the patients were studied. Whenever there was suspicion of severe injury, CT scan was done. We obtained thin-section axial CT scans (0.625– 1.25 mm) with multiplanar reformation with an interval of 3-5 mm. Results. All of the patients were males with most of patients in age group of 20 to 30 years. About 14 patients out of 40 had lung injuries. The most common pattern of lung injury was pneumothorax followed by pulmonary hemorrhage. In conclusion, a so called non-lethal pellet gun used by law enforcement agencies has the potential to cause lung injuries which can sometimes be lethal to life especially when fired from short distance.

2.10 J. Tarunika , K.Roja (2018). – Research topic was “A comparative study on murder and culpable homicide”.

Murder and culpable homicide seems to be more similar to each other , but they are not synonymous to each other. Where Section 299 of Indian Penal Code defines Culpable homicide and Section 300 of Indian Penal Code deals with concept of Murder. These terms always snarls up the one who starts leaning these concepts. The major difference lies in the fact that in Murder the act is done with an intention of causing any bodily injury which itself is sufficient to cause death of a person. Whereas in case of a Culpable homicide, the act is performed with an intention to cause bodily injury which is likely to cause death of a person. The difference lies inooo the probability of death to occur in both cases, where both murder and culpable homicide is done with intention to cause bodily injury to a person. This concept is obscure and causes great chaos. in India, the heinous offences like killing a person may be termed as Murder, Culpable homicide and Non-Culpable homicide whereas in America, they are termed in degrees such as First degree Murder, Second degree Murder and Third degree Murder. This is depending upon the severity of the crime being committed.

CHAPTER-III

AIMS & OBJECTIVES

AIM:

To conduct statistical study on homicides caused by grievous injuries in Kakinada jurisdiction.

OBJECTIVES:

- To collect secondary data from GGH Kakinada related to homicides.
- To segregate and interpret the data accordingly into sex distribution, seasonal variations, sociological aspects, cause of death, types of injuries and modus operandi.
- Future prediction of similar crimes and homicide pattern analysis.

CHAPTER-IV

MATERIALS AND METHODOLOGY

This study was carried out over period of one year starting from 1st January 2019 to 31st December 2019 in the Department of Forensic Medicine and Toxicology, RANGARAYA MEDICAL COLLEGE & Hospital, Kakinada.

It is a retrospective study, data obtained from the history given by the police and relatives, records retained in the department after postmortem examination.

I have included in this study the cases with clear history of homicidal death according to police, autopsy report showing that data for gender, age, seasonal variation, victim socio-economic status, weapons used or mechanical impacts caused injuries, criminological aspects and forensic medicine aspects related to injuries.

The various data relating to the cases were collected from source as under:

a. Examination of inquest reports and connected papers.
b. Interviewing police personnel accompanying the cases.
c. Interviewing the relatives, friends and neighbors of the deceased, and
d. The autopsy examination paper.
e. The history and sociological aspects of deceased were obtained from accompanying persons/relatives and police as per the predesigned proforma. Each homicidal case was examined and evaluated at autopsy, both externally and internally. In the present study, depending on the prevailing standard, socioeconomic statuses were categorized as low, middle and high depending upon income per family per year. The educational status has been classified as illiterate who are not able to read or write, primary-up to class 7, as higher secondary (from class 8-10) and college and above.

CHAPTER-V

RESULT AND CONCLUSION

During the study period from January to December 2019, Total 1078 medico-legal autopsies were conducted, out of which homicidal deaths constituted 348 cases (32.29%). 100 cases are taken as study material.

The factors contributing for highest incidents in the >18-40 years age groups (47.05%) were due to property disputes, accidents.

In this study male were (85%) and female cases were (15%) of total homicidal death.

Distributions according to seasonal variation showed that maximum cases were found in Summer (March-June) 41.09%, followed by in Winter 30.74% and monsoon 28.16% of total cases.

In this present study socio-economical status were showed that low(58%), medium(22%), high(20%). In educational status illiterate(51%), primary(4%), high school(2%), college(43%).

In present study most common cause of death was cranio cerebral (Head injury) 67% followed by shock and hemorrhage 16%, polytrauma 9% and crush injury 8% of total cases.

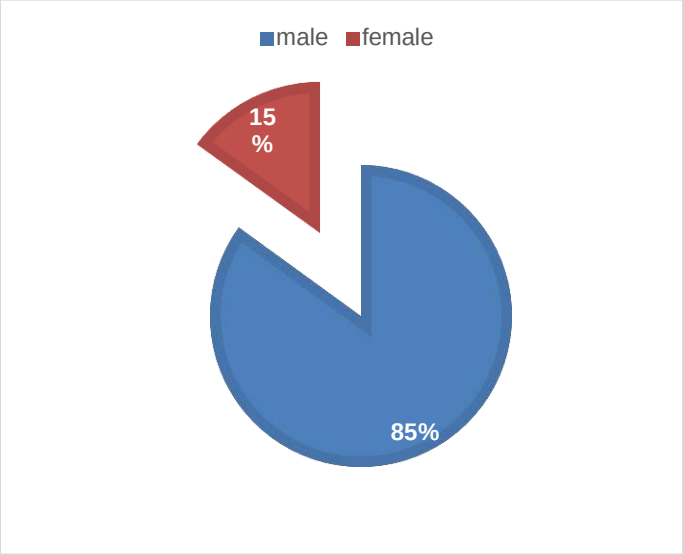
Commonly used object were blunt 87% and sharp objects 13% , reason behind it might be due to most of the homicidal death are unplanned and these object easily available everywhere.

In present study most common injuries were fracture 94%, wound 86%, laceration 84%, haematoma 82%, abrasion 78% of total cases

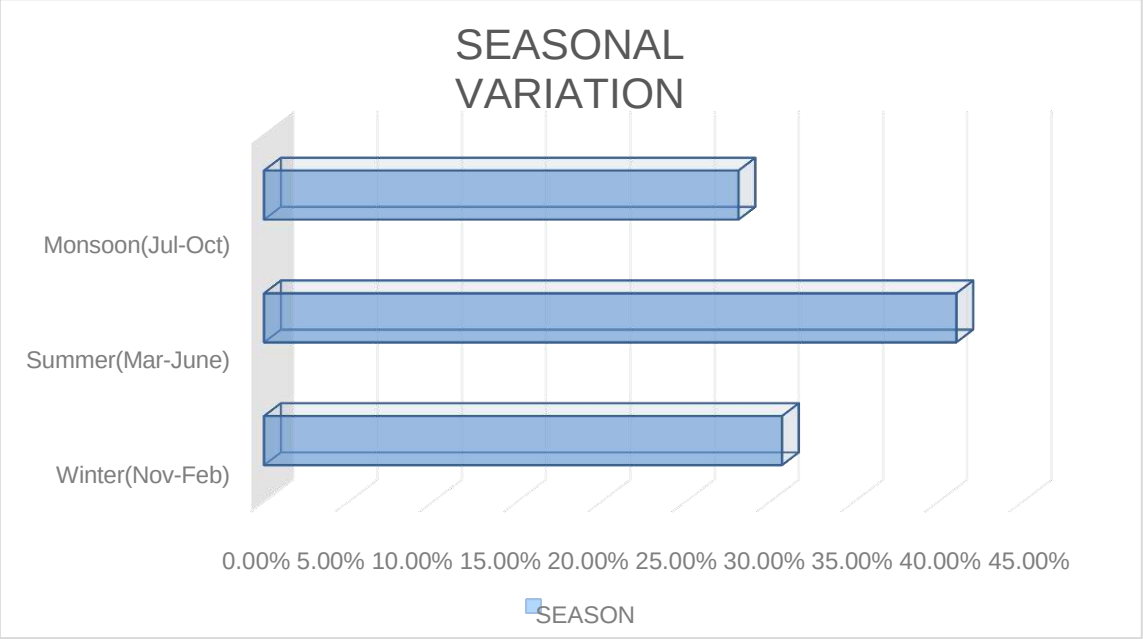
TABLE 4.1 : Distribution of cases by Age and Sex

Age(Yrs)	Male (%)	Female (%)	Total (%)
0-18	04(4.70%)	02(13.3%)	06(6%)
>18-40	40(47.05%)	01(6.66%)	41(41%)
>40-60	28(32.94%)	08(53.3%)	36(36%)
>60	13(15.29%)	04(26.6%)	17(17%)
Total	85(87.29%)	15(37.6%)	100(100%)

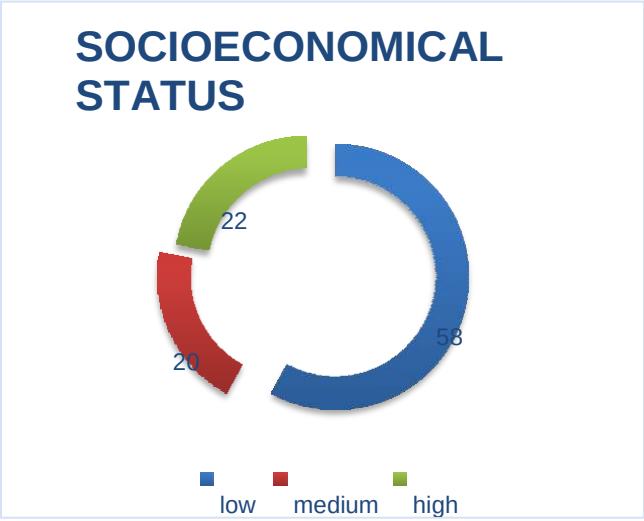
Pie chart 4.1 : SEX DISTRIBUTION



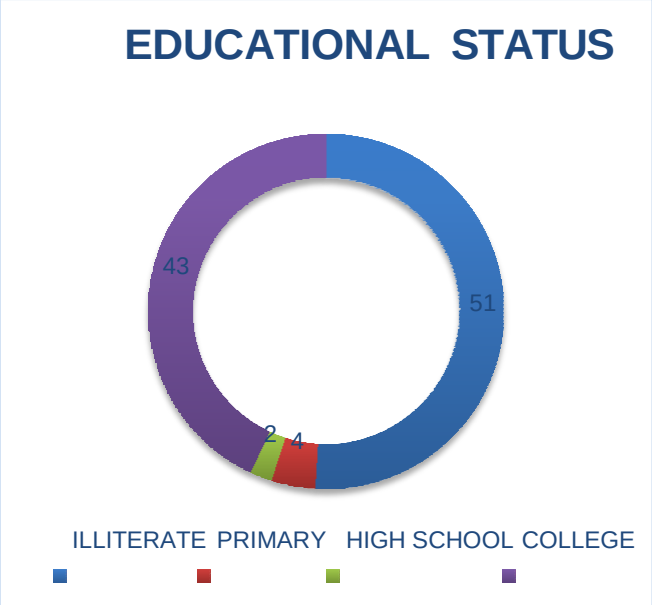
Graph – 4.1 : Cases according to seasonal variation



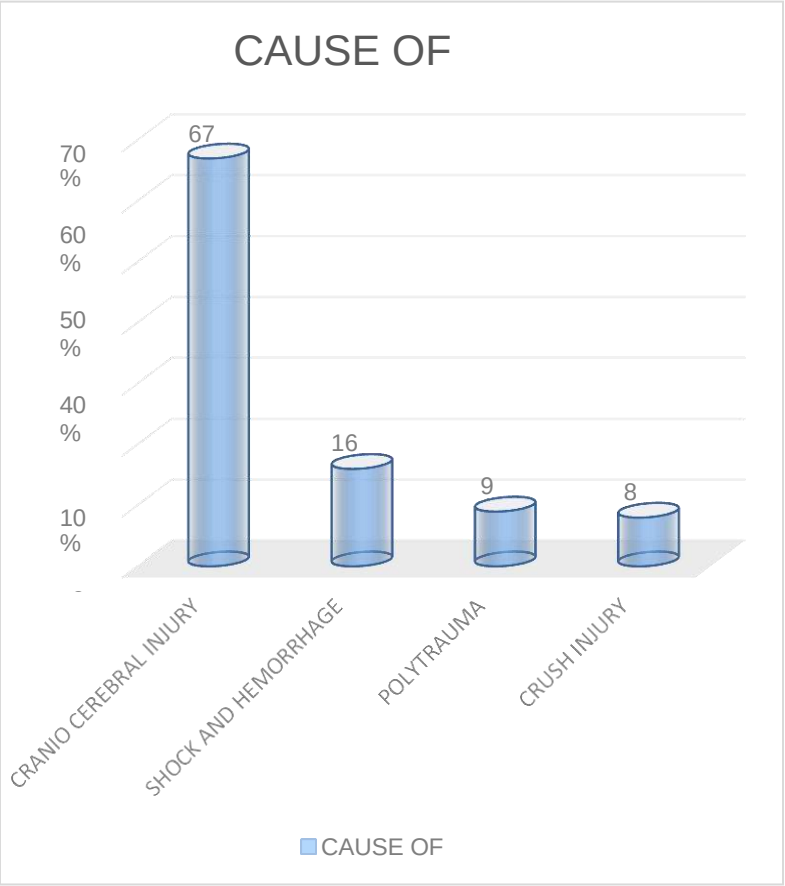
Pie chart 4.2 : CASES ACCORDING TO SOCIOLOGICAL ASPECTS



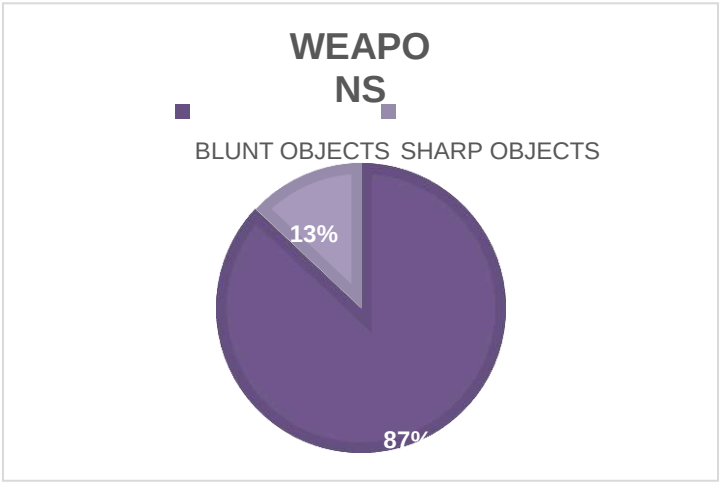
Pie chart 4.4 : CASES ACCORDING TO EDUCATIONAL STATUS



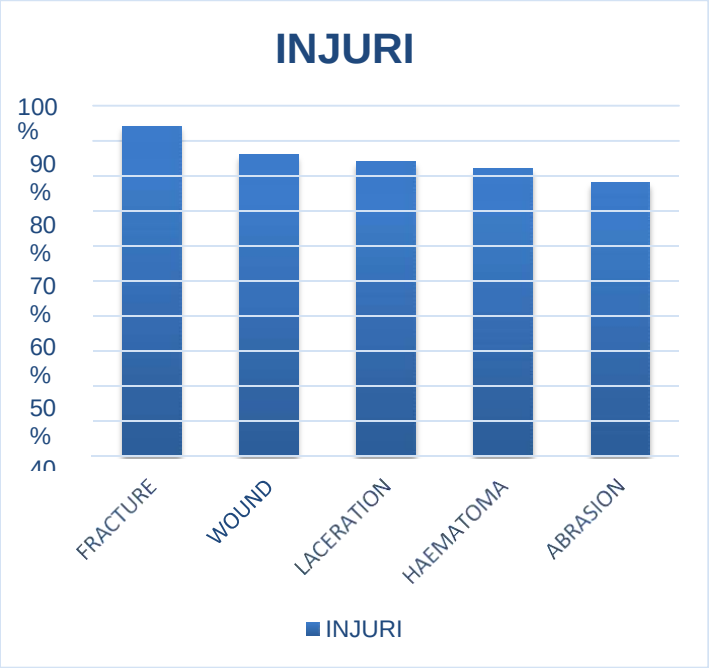
Graph 4.2: CASES ACCORDING TO CAUSE OF DEATH



Pie chart 4.4: CASES ACCORDING TO TYPE OF WEAPON USED



Graph 4.3:CASES ACCORDING TO INJURIES



CONCLUSION

The injury that has mostly caused grievous injury or deaths found to be cranio cerebral injuries according to the data's presented by the government general hospital Kakinada.

This is a statistical analysis which is based on the homicide due to grievous injuries that has been registered in GGH, Kakinada. But if these Medico legal cases are recorded separately in the DCRB. This will help to distinguish between various types of cases occurred in the whole of Kakinada.

Then with the above statistics researches can be done based on the criminological as well as the modus operandi related with the crime which gives a lead on the psychological aspects of people in committing a crime.

REFERENCE

1. Homicide in southern India – A Five year retrospective study. by Sachidananda Mohanty, Sujan Kumar Mohanty, Kiran Kumar Mohanty.

2. Study of the pattern of homicidal deaths in Varanasi region of India. By Rajeev Kumar.

3. Medicolegal study of homicide in and around GMC Aurangabad. Sachin gadge, KU Zine, AK Batra, SV Kuchewar, RD Meshram, SG Dhawane.

4. Profile of Fatal assault cases in Patiala. By Prof. Dr. SS Oberai, Dr. Satinder Pal Singh, Dr. KK Agarwal, Dr. DS Bhullar, Dr. Akashdeep Agarwal, Dr. DS Walia and Dr. AS Thind. Govt. Medical College, Patiala.

5. Trends of Homicidal deaths in Indore (MP) Region One year Retrospective study. Ashok K Rastogi, Bajrang K Singh, Sanjay K Dadu, Pramendra S thakur, Anil K Lanjewar, Prasant P Rajput.

6. Fatal and non-fatal injuries caused by crossbows (2004). Grellner, W., Buhmann, D., Giese, A., Gehrke, G., Koops, E., & Püschel, K.

7 Hurt & Grievous Hurt in Indian Context (2013). Atal DK, Naik SK, Das S.

8. Train Accident Injuries- A Study Of 97 Cases (1981). S. M Hardikar, A. N Waknis.

9. Lung injuries on computerized tomography due to pellet gun (2019). Dr.Suhail Rafiq, Dr.Fahad Shafi, Dr.Adil Sangeen, Dr. Suhail Rehman.

10. A comparative study on murder and culpable homicide (2018). J. Tarunika , K.Roja.

11. The essentials of forensic medicine and toxicology (34^{th} edition). Dr. K.S. Narayan reddy, Dr. O.P.Murty.