



FATAL FIREARM INJURIES : A TWO YEAR AUTOPSY BASED PROSPECTIVE STUDY.

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ABSTRACT

Introduction: A firearm injury is a gunshot wound or penetrating injury from a weapon that uses a powder charge to fire a projectile. Firearm injuries are a serious public health problem. The present study was undertaken in the department of Forensic Medicine & Toxicology, Jawahar Lal Nehru Medical College Bhagalpur with the primary aim of scientific observation and study of pattern of firearm injuries. Firearm injuries are one of the important causes of morbidity and mortality in our country. There has been a continuous increase in the incidence of these injuries in recent years because of an increase in interpersonal violence (IPV), dacoity, robberies, caste, feuds, terrorism, easy availability of illegal country made guns (Kattas) and refinement in ballistics-automatic and semi-automatic firearms (rifle, revolver & pistols). **Material and Method:** This prospective analytic study was carried out during period March 2020 to Feb. 2022 in Department of Forensic Medicine at JLNMC Bhagalpur Bihar. **Results:** This study observed 78 cases FAIs among which that maximum cases were males 69 (88.5%) and 09 (11.5%) were females. Age group among which 21 to 30 years had predominant 46% (31 males & 5 females). Maximum cases were brought in month of December, followed by August. Most FAI victims died at spot scene at the place of crime or on the way to going for hospitalization. Homicidal 73 cases 93.5% predominant over suicidal or Accidental. Shotgun / country made weapon was most common weapon used among FAI victims. Most common site of injury was head followed by thoracic cavity then abdominal cavity. Hemorrhage and shock was the most common cause of death among FAI victims. **Conclusion:** We need to eradicate illicit local community gun manufacturing units. There is a need for educational efforts and community and societal curriculum to reduce the number of firearms related injuries. Strict laws may help reducing the production of country mad firearms

KEYWORDS : Firearm injury FAI, interpersonal violence IPV, Haemorrhage and shock.

INTRODUCTION

Firearm is any instrument/ device, which propels a projectile/s by the expansion of gases generated by the combustion of an explosive substance. The fire was the greatest invention for the human civilization but the invention & evolution of the firearms has become as a curse to this world. It is one of the most dreaded weapons used by human being to kill themselves or others. Firearm injury is one of the important causes of morbidity and mortality in our country. There has been a continuous increase in the incidence of these injuries in recent years because of an increase in interpersonal violence (IPV), dacoity, robberies, caste, feuds, terrorism, easy availability of illegal country made guns (Kattas) and refinement in ballistics-automatic and semi-automatic firearms (rifle, revolver & pistols).

The incidences of violent crimes with gunshot injuries have become increasingly more common, reflecting the deterioration of law and order in our society. These injuries affected all socio-economic group and more common in the low and middle income countries. In 2000, the rate of violence-related death in low to middle-income countries as a whole was more than twice that in high-income countries, although rates vary between regions and within countries.

MATERIAL AND METHOD

The present study was carried out in department of FMT, JLNMC Bhagalpur. The prospective data from **March 2020 to Feb. 2022**, was collected for this study. This study includes only those cases showing sign of firearm injuries on police inquest and other unknown cause. Decomposed bodies and the cases where nature of injuries was undetermined was excluded from this study. The various epidemiological features and medicolegal aspects of cases where collected from police inquest, PM reports and other datas (FIR, hospital records etc) and interrogation of the relatives and friends neighbours accompanying the dead body.

In every case of FAI, details of these injury were studied for

positive factors, external examination, internal examination, number of injuries, part of the body and organ involved, any other type of associated injuries and manner of death, cause of death. This study was also evaluated according to age, religion, sex, marital status, habitat, occupation, place of occurrence.

OBSERVATION AND RESULT

The study of FAI was done from Mar 2020 to Feb. 2022. During this period a total number of 1906 cases of medicolegal autopsies were conducted in mortuary of JLNMC Bhagalpur, dept. of FMT out of this 78 cases (4%) were FAIs.

Sex – Among 78 cases of FAI, male – 69 (88.5%) and female – 9 (11.5%).

Religion – Hindu 66 (84.6%), Muslim 12 (15.4%).

Manner of death – Homicidal 73, Suicidal 3, Accidental 2.

Cause of death – Hemorrhage and shock - 72 cases, septicemia and other causes – 6 cases.

Survival time of FAI victims – found death at scene/ spot death – 65 cases, less than 1 day – 7 cases, more than 1 day – 6 cases.

Month wise distribution – maximum in august and December, minimum – October and November.

Occupation of FAI victims- Business – 18, Student age group – 27, Housewife – 9, Service/ land dispute/ IPV – 18, Unknown – 6.

Habitat – Urban – 42, Rural – 36cases.

Site of bullet entry injury bullet entry - Head-34cases (temporal 12 cases > occipital 9 cases > parietal 7 cases > Frontal 6 cases) then thoracic cavity 20 cases followed by

abdominal cavity 14 cases, multiple site – 24 cases.

Age wise Distribution of FAI victims :-

Age group	Male	Female
1 – 10 years	1	
11-20	13	1
21-30	31	5
31-40	23	
41-50	7	
51-60	9	3
Above 61 years	1	

DISCUSSION

Firearm Injuries are commonly encountered and a one of the public health problem that severely affects the criminal justice and health-care systems. Studies from the United States and other developed countries reported that firearms are used in more than 60% of all homicides, over 25% of all assaults, more than 35% of all robberies and almost half of all suicides.

For 2008, the NCRB reports a total of 4,101 people murdered by firearms in India, or 12.2 % of all 33,727 murder victims that year (15). The total number of reported firearm victims-including suicides and accidental deaths-was 6,219. Murders constituted the largest proportion (66%) of all firearm deaths followed by suicides and accidental deaths (34%) (15). In 2008 the state of BIHAR reported the highest incidence of murder cases of all states for the year, with 4,564 reported from all causes, accounting for almost 14 per cent of total cases in the country. This one state represented just fewer than 36 per cent of the victims murdered with firearms nationally. Uttar Pradesh, Bihar, and Jharkhand together accounted for 62.4% of all victims killed by firearms in 2008. This rate was undoubtedly affected by the easy availability of illegal firearms in these states, yet it also reflects political violence, caste conflicts, and Naxalite attacks, in all of which the use of firearms is common.

It can be said that youth pick more fights and are therefore more engaged and aggressive. The elderly are wiser and act with restraint; their inclination is to avoid fights rather than provoke them. Males are more susceptible to strain and despair in their day-to-day activities because they usually go to work, where violence is ensured. Males are more affected than females because they are expected to maintain the moral dignity of the family and any threat to it that can lead to violence, while females tend to stay indoors. Also, females are less likely to participate in fights that could lead to murder.

SUMMARY AND RECOMMENDATIONS

The study is an attempt to discover and to analyze patterns of firearm form among 78 victims of firearm examined in the Department of FMT, JLNMC Bhagalpur. between March 2020 to Feb. 2022.

During this period of study 1906 medico-legal Autopsy were studies. out of these 78 cases were firearm injuries. This constitutes 4% of the total Autopsy performed of FAI cases.

Homicidal motive was common in firearm injury cases in various region and Shotgun/kattas was the most common weapon used, as it is indigenously manufactured in this region. Because Country made firearms are cheap, easily available and easier to be destroyed. Strict laws may help reducing the production of country made firearms. Authorities issuing license for possession of firearms need to be more strict and vigilant. These steps may help in reducing the burden of firearm injury cases. The geographical location of this district is also responsible for more number of cases.

Another study covers wound characteristic and epidemiological pattern of firearm deaths from increases only one metro city of India. Increase in suicidal pattern in police

officials by using firearm weapon is major concern and proper psychological evaluation with mental support will definitely reduce this mortality. More studies from different location is needed for evaluation of firearm deaths trends.

Humans are the only ones who should be blamed for accidents and not circumstances. Since celebratory gunshot/ Harsh firing at marriage is the most common cause firings, therefore firing of live cartridges at public gatherings should be banned, be it marriage, during festivals or elections with strict enforcement of the laws. Considering proportion of self inflicted injuries in study, proper certified training of the individuals acquiring weapon and issuance of guidelines regarding usage of firearms should be done strictly. Many of the single shot gunshot injuries or self inflicted injuries were suspected to be suicidal in nature therefore evaluation of mental status by an expert should be done before issuance of license or selection of candidates in services which involves handling of firearms e.g. police services.

The male predominates over female in Homicidal tendencies can be attributed to Unemployment.

- Love affair (failing).
- Marital conflict
- Family disputes. (land and properties)
- Extramarital affair.

There is a relationship between addiction (alcohol/toddy/ tobacco) and suicidal /homicidal tendencies.

According to NCRB, Previous research— much by forensic pathologists—leaves no doubt about the importance of the problem. The fatality statistics examined here show that murders constitute the vast majority of firearm deaths in India; suicides by firearms are much less common. Significant regional variation in firearm fatalities is another striking aspect of the geography of Indian gunfire deaths; the rates vary across states and cities, ranging from negligible firearm fatalities to much higher levels of killings. The trends revealed here point to a broad agenda for future research.

CONCLUSION:

research on firearm injury proves that certain changes may minimize mortality, disability and costs to the community. We need to eradicate illicit local community gun manufacturing units. There is a need for educational efforts and community and societal curriculum to reduce the number of firearms related injuries. There is a need to decrease the number of firearms used and sold in india. Private gun ownership should be strictly limited and illegal availability should be prevented. Strict laws may help reducing the production of country mad firearms. More studies from different location is needed for evaluation of firearm death trends.

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