DOI: https://doi.org/10.53350/pjmhs2023175124

ORIGINAL ARTICLE

Assessment of Firearm Injuries (FAIs) Based on Gender and Age: A Single Center Study

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ABSTRACT

Aim: To assess the frequency of firearm injuries between gender and age from tertiary care hospital of Nawabshah, Sindh, Pakistan.
Methodology: This descriptive retrospective study was carried at Medicolegal section of Peoples Medical College Hospital and Department of Forensic Medicine & Toxicology, Peoples University of Medical & Health Sciences, Nawabshah District Shaheed Benazirabad, Sindh, Pakistan from 1st January 2021 to 31st December 2021. A total of 216 patients data were analyzed via purposive sampling method. The consent was also taken from the hospital to access the patients' record. The data were collected on pre-designed sheet based on objective without any gender and age difference.
Results: One hundred and sixty one (74.5%) were males while remaining 55(25.5%) belonged to females and 42(19.44%) patients belonged 20-25 years of age. Ninety eight (45.37%) had affected head injury, 42(19.44%) had affected face injury, 37(17.13%) had affected abdominal injury, 39(18.05%) had affected hind limb injury.
Practical implication: The practical implication of the study was to aware the current trends of the FAI based on gender and age. Therefore we are more vigilant towards the diagnosis and treatment strategies.
Conclusion: Most of the firearm injuries were present in male due to more authority and will power as compared to female. Further mostly the age was from 20-25 years because in this age the persons are not so much mature. Another result was also assessed that most of the mortalities are due to head injury.
Keywords: Firearm injuries, Gender, Age, Forensic medicine, Sindh, Pakistan

INTRODUCTION

Worldwide data showed that Violent injuries are leading cause of death which come 8th position in violent injuries due to high death causative agent firearm injuries cause considerable morbidity, enduring physical and psychosomatic disability for societies, families, communities and individual. Therefore, firearm injuries and its use are modifiable risk factors gender based violence is a problem of public health concern in Pakistan[1].

The domestic violence's are varying in culture to culture and their after effects such as stress-related syndromes, chemical dependency and drug abuse and at the end suicide[2]. In 1996, it is declared that among other public health problem, violence is one of them. Moreover violence due to firearm injuries is among the top most problem present in both developed and under developed countries. Therefore, there must be global strategy to control the violence by starting the concrete implementation. The problem of firearm injuries can be controlled because it is one of the manageable risk factor. If proper counselling to the individual takes place than the chances of mortality due to firearm injuries are reduced. Assessment of firearm injuries also related to domestic violence[1].

A UN study showed that, fifty percent of married women lived in Pakistan are physically weather-beaten and ninety percent are psychologically and verbally battered by their husbands. Most commonly husband followed by brother than ex-husband relationships that kill or beaten women. In other hand street crime affects on lives of women and men both[3].

Men have a tendency to victimize, as compare to women is low. Society tends to blame the victim specially women, even when she is a child as is reported according to South African research data[4].

It was further discussed that the domestic violence or firearm injuries is not only limited to one country or religion but it extend to all irrespective to any gender, cultural environment and religion.[5] This is about as 70% of the Pakistani population belong to rural areas and it is probable that more gender based crimes take place in rural areas because in these areas literacy rate is low and gender base discrimination is high[6].

According to American firearm injuries culture, previous studies showed that women use beat up rifles whereas men use pistols as well as hunting rifles. It is not relate to be nature that should be separated men and women when we talk about firearm injuries and gun ownership. While outwardly naive, a deeper issue when it comes to the topic of firearm injuries and gun ownership. At their base level guns and firearm injuries are simply a tool, some various sizes and some more powerful than others, so their uses is different according to used issues, sizes and violent injuries and domestic issues in our societies[7-9].

Received on 10-12-2022
Accepted on 23-04-2023

MATERIALS AND METHODS

This descriptive retrospective study was carried out in Medicolegal section of Peoples Medical College Hospital (PMCH) and Department of Forensic Medicine & Toxicology, Peoples University of Medical & Health Sciences, Nawabshah District Shaheed Benazirabad, Sindh, Pakistan from 1st January 2021 to 31st December 2021.
Population: A total of 216 patients' data was analysed.
Sampling: The sampling method was purposive. A purposive sampling method was used to achieve the specific aims and objectives that highlighted the firearm injuries based on gender and age. The consent was also taken from the hospital to access the patients' file.
Sample Calculation: The sampling was calculated based on Rao-Soft formula and 5% formula with 95% confidence interval.
Development of Instrument: A Detailed excel sheet was designed based on the objective of the study such as demographic of information, age, organ affected based on gender and age.
Reliability and Validity: The sheet was spread among 5% of the sample and necessary changes were made before implementation.
Data Collection: The data were collected on pre-designed sheet based on objective without any gender and age difference. Not all data were included but only specific data were collected. The collection of data sheet was approved from the hospital staff to maintain the confidentiality.
Data Analysis: The data were analyzed with the help of Microsoft Excel.

RESULTS

There were 161(74.5%) males while remaining 55(25.5%) belonged to females. Forty two (19.44%) belonged to age 20-25 years of age, 36(16.67%) were from 26-30 years of age,

30(13.89%) were from 31-35 years of age, 27(12.5%) were from 36-40, 31(14.35%) were from 41-45 years of age, 27(12.5%) were from 46-50 years of age, 17 (7.87%) were from 51-55 years of age and 6 (2.78%) were from 56-60 years of age respectively. The organs affected due to firearm injuries, 98 (45.37%) had affected head injury, 42 (19.44%) had affected face injury, 37 (17.13%) had affected abdominal injury and 39 (18.06%) had affected hind limb injury (Table 1).

There were 98 had affected head injury in which male was 82 and female was 17, 42 had affected face injury in which male was 34 and female was 8, 37 had affected abdominal injury in which male was 23 and female was 14, 23 had affected hind limb in which 23 was male and 16 was female (Table 2). Table 3 described the organ affected due to firearm injuries among age wise evaluation.

Table 1: Demographic information of the patients (n=216)

Variable	No.	%
Gender		
Male	161	74.5
Female	55	25.5
Age (years		
20-25	42	19.44
26-30	36	16.67
31-35	30	13.89
36-40	27	12.5
41-45	31	14.35
46-50	27	12.5
51-55	17	7.87
56-60	6	2.78
Organs affected due to firearm injuries		
Head Injury	98	45.37
Face Injury	42	19.44
Abdominal Injury	37	17.13
Hind Limb injury	39	18.06

Table 2: Organs affected due to firearm injuries according to gender

Gender	Head Injury (n=98)		Face Injury (n=42)		Abdominal Injury (n=37)		Hind limb injury (n=39)	
	No.	%	No.	%	No.	%	No.	%
Male	81	82.65	34	80.95	23	62.16	23	58.97
Female	17	17.35	8	19.05	14	37.84	16	41.03

Table 3: Organs affected due to firearm injuries according to age (years)

Age (years)	Head Injury (n=98)		Face Injury (n=42)		Abdominal Injury (n=37)		Hind limb injury (n=39)	
	No.	%	No.	%	No.	%	No.	%
20-25	18	18.36	10	23.81	9	24.32	5	12.82
26-30	15	15.31	7	16.67	5	13.51	9	23.08
31-35	13	13.26	5	11.90	4	10.81	8	20.51
36-40	11	11.22	4	9.52	5	13.51	7	17.95
41-45	16	16.32	4	9.52	3	8.11	8	20.51
46-50	10	10.20	9	21.43	7	18.92	3	7.69
51-55	10	10.20	2	4.76	2	5.40	1	2.56
56-60	3	3.06	1	2.38	2	5.40	-	-

DISCUSSION

The findings of the present study showed that mostly head injuries were takes place. There are different studies were takes place but this type of study was first takes place in one of major city of Sindh Province. One study was takes place in other city and it was concluded that most of the firearm injuries problem were present in male as compared to the female gender[10]. Our study findings are also same that male gender was more in the firearm injuries cases. Another study was concluded that majority of the firearm injuries cased were from 20 to 30 years of age and our findings are also near to same that mostly youngster had this firearm injuries violence[11]. Furthermore, a more concise study was conducted among paediatric. There is total 194 patients enrolled via retrospectively for last 10 years. Most of the children are injured due to unintentional shootings and frequency was one hundred followed by 55 due to assaults. The overall mortality ration among enrolled children was about 10 percent, while our study concluded that most of the injuries were due to head injury and percentage was 46%. Further, we had not gathered the data that how much patients were survived or died and that's the limitation of the study.[12] A similar study was conducted in Karachi, Pakistan regarding injuries due to cranial firearm. This type of injuries is very common among common people in Asian countries. Further, due to these injuries, the mortality rate is so high. They conducted a study among 114 patients based on different variables and the common variables are age and gender. Mostly males were affected, and our study also found same results. Further, half of the patients having aged between 18 to 35 in both studies that shows validity of the results. This study shows that most of the patients had brain injury while our study shows similar results that more than 45% of the patients found head injury.[13] Another study was emphasized on different factors of mortality among those patients who had head injuries. This study was actually a report from National institute of health (NIH) data bank. This study was conducted on 151 patients who had injury due to gun shot. Almost near 90% of the patients were died. The reason of death was found with the help of computed tomographic scan that due to compression, intraventricular haemorrhage and presence of greater than 15mL hyperdense or mixed-density lesions, while our study was only focused on different types of injuries[14].

CONCLUSION

Most of the firearm injuries were present in male due to more authority and will power as compared to female. Further mostly the age was from 20-25 years because in this age the persons are not so much mature. Another result was also assessed that most of the mortalities are due to head injury. Therefore, proper counselling sessions will be required to cope up the situation.

Conflict of interest: Nothing to declare

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