

ORIGINAL ARTICLE

Firearm Injuries in the Tribal Area of Pakistan. An Emerging Trend

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ABSTRACT

Background: Due to multiple conflicts among the society many countries are facing rise in the firearm casualties. Whether it may be due to unstable government or economic crises it leads to huge financial burden to the country and ultimately to the family. Easy access to firearm weapons is one of the leading cause.

Material and Methods: It is a cross sectional descriptive study, conducted in the tribal areas of Pakistan. The study was conducted on intentional firearm injury cases which reported to hospital during the period from January 2010 to December 2010 in District Hospital Timergara after informed consent, history was recorded and examination was done. Study was focused on age, sex, site of injury, parameters causing injury, the person involved in causing this injury and management provided.

Results: A total of 200 cases were reported during this study period. The cases included in the study were 150 (75%), of intentional injuries, out of which 143 (95.3%) cases were of homicidal firearm injuries and 7 (4.6%) cases were suicidal in nature. Majority of the cases were reported during the month of May (20.29%) and June (17.48%) and lowest figure was observed in the December (2.14%).

Conclusion: Study concludes that not believing in the judicial system of the community added with multiple other factors leads intentional firearm injuries which is a dominant cause of fatal injuries observed in the society. Law should be enforced strictly on the use of illegal firearm weapons, as reported in this study that in majority of the cases weapon used was illegal.

Keywords: Firearm injuries, Tribal Areas, Pakistan, homicidal, Firearm weapons.

INTRODUCTION

Many countries are facing a substantial increase in the firearm cases resulting in fatal and non-fatal casualties(1, 2). This emerging trend is due to easy availability of firearm weapons, legally or illegally(3). The intention with which the weapon is used shall determine the morbidity and mortality(4). All such injuries are classified in three general groups intentional, unintentional and accidental. Intentional injuries are further categorized as homicidal, suicidal and injuries related to assault (5).

In many parts of the world firearm injuries are the leading cause of death resulting in high morbidity and mortality rate(6). In Pakistan there has been an abrupt increase in injuries related to firearm, mainly due to illegal infiltration of firearm weapons in the tribal areas near Afghanistan (7-9).

This study is conducted in the tribal areas of the country to observe the nature of injuries as an outcome of the intent with which the weapon has been used.

The study is associated with emerging trends in firearm cases in order to develop new strategies to control violence in the society (10, 11).

Study type: Cross sectional descriptive study.

MATERIAL AND METHOD

The study was conducted on intentional firearm injury cases which reported to hospital during the period from January 2010 to December 2010 in District Hospital Timergara. After informed consent, history was recorded and examination was done. Study was focused on age,

sex, site of injury, parameters causing injury, the person involved in causing this injury and management provided.

Inclusion criteria: Patient gave history of intentional firearm injury.

Exclusion criteria: Patient with unintentional or accidental firearm injury were exclude from the study.

RESULTS

A total of 200 cases were reported during this study period. The cases included in the study were 150 (75%), of intentional injuries. 143 (95.3%) cases were of homicidal firearm injuries and 7 (4.6%) cases were suicidal in nature. Majority of the cases were reported during the month of May (20.29%) and June (17.48%) and lowest figure was observed in the December (2.14%) Table-1.

Table-1 Intentional injuries during whole year shown in months.

Month	Assault	Suicide	Intentional Injuries
January	9 (6.0)	1 (14.3)	9 (6.43)
February	15 (12.0)	0	16 (11.43)
March	9 (7.5)	1 (14.3)	11 (7.86)
April	9 (6.0)	0	8 (5.71)
May	26 (16.5)	2 (28.6)	29 (20.29)
June	25 (15.0)	0	25 (17.48)
July	13 (10.5)	1 (14.3)	15 (10.71)
August	5 (2.3)	0	3 (2.14)
September	9 (8.3)	0	11 (7.86)
October	10 (6.8)	1 (14.3)	10 (7.14)
November	9 (6.0)	1 (14.3)	9 (6.43)
December	4 (3.0)	0	4 (2.86)
Total	143	7	10

It was observed that prevalence of intentional firearm injuries is more common among 21-30 years of age with 63 assault cases and 3 suicidal cases (44.66%). It is followed by age group of 31-40 years comprising of 29 assault cases and 3 suicidal cases (19.33%). Thus, 44.66% of intentional injuries were between age group 21-30 years which figured out to be 67 cases Table-2. Male to female ratio in this study is 22:1 (144 male 95.71% and 6 female 4.28%).

Table-2 Age and gender distribution of firearm injuries.

Age	Gender	Assault	Suicide	Subtotal	Total
< 10 years	Male	0	0	0	1(0.71%)
	Female	1	0	1	
11-20	Male	18	0	18	19 (13.57%)
	Female	1	0	1	
21-30	Male	63	3	66	67 (44.66%)
	Female	0	1	1	
31-40	Male	29	3	27	29 (19.33%)
	Female	2	0	2	
41-50	Male	17	0	17	18 (12.86%)
	Female	1	0	1	
51-60	Male	10	0	10	10 (7.14%)
	Female	0	0	0	
> 61	Male	1	0	1	1

Table-4 Body parts affected in intentional firearm injuries

Intent	Head & Neck	Trunk		Extremity		Multiple	Total
		Chest(front & back)	Abdomen (front & back)	Upper Limb	Lower Limb		
Assault	26 (17.33)	38 (25.33)	33 (22)	13 (8.66)	16 (10.66)	17 (11.33)	143
Suicide	5 (71.43)	0	2 (28.57)	0	0	0	7
Subtotal	31	38 (25.33%)	35 (23.33%)	13 (8.66%)	16 (10.66%)	17 (11.33%)	150
Total	(20.66%)	73 (48.66%)				17 (11.33%)	150

In majority of the cases victim was unaware of the assailant (78 cases), spouse was involved in (5 cases), in a large proportion of case (60 cases) assailant was known to the victim (Table-5).

Table-5 Relation between victim and assailant in firearm injuries

S#	Offender	Cases
1	Suicidal	7 (4.66%)
2	Known cases	60 (40%)
3	Spouse	5 (3.33%)
4	Unknown	78 (52%)
	Total	150

Majority of the cases were managed conservatively along with some minor surgical intervention, it contributed 53.33% of the cases. Major surgical procedures were done on 30.66% cases. 4.66% cases were referred to larger medical setups with better medical facilities. 6 patients died during treatment, 5 were of fatal suicidal nature and 6 died before reaching hospital (Table-6)

Table-6 Management of firearm cases

S#	Management provided	Cases
1	Conservative Management	80(53.33%)
2	Operated	46 (30.66%)
3	Referred	7 (4.66%)
4	Fatal outcome	17 (11.33%)
	Total	150

	Female	0	0	0	(0.71%)
Total	Male	138	6	144 (95.71)	150
	Female	5	1	6 (4.28%)	

The study also highlights that from 143 cases, 32(21.33%) were the outcome of a family fight and 29 (19.33%) were the outcome of recent conflict. Majority of the cases 70 (46.66%) no cause could be identified as in a large of cases assailant was known to them (Table-3).

Table-3 Causes of intentional firearm injuries

Sr#	Causes	Total cases
1	Family fight	32 (21.33)
2	Conflict	29 (19.33)
3	No cause	70 (46.66)
4	Larceny	12 (8)
5	Suicide	7 (5)
Total		150

The study shows that the most common area affected was trunk 48.66%, because it could be targeted easily and usually results in fatal outcome. 19.33% of the cases extremities were affected. In suicidal cases head and neck was the opted site, next preferred site was trunk 28.57% (Table-4)

DISCUSSION

About half a century ago poisoning was a popular cause of homicidal death, it is supported by a study conducted in India by Gaillard Y, Krishnamoorthy A (12). In the modern world firearms has overtaken rest of the weapon and is most common weapon used to commit homicides, it is supported a study conducted in 1997 Control CfD, Prevention(13). Its cheap availability and easy to use technique has made it popular weapon in the modern era it is supported by study conducted in 2012 Lubin G, Werbeloff N, Halperin D, Shmushkevitch M, Weiser M, Knobler HY (14).

Firearm injuries may not be fatal always but usually produces grave consequences, studies conducted in 1995 and 1996 by Anest JL, Mercy JA, Gibson DR, Ryan GW and Sadowski LS, Munoz SR are in favor of our study (15, 16). Worldwide non-fatal firearm injuries are far more common than fatal firearm injuries.

In the present study it is observed that intentional firearm injuries are more common during May and June, a study conducted in 2000 by Beaman V, Anest JL, Mercy JA, Kresnow M-j, Pollock DA supports the present study(17), the reason for this coincidence is not mentioned in any book, but in the local context it may be due to

extreme weather conditions, it is extremely hot during these months, the day light expands to may hours, encounter with other people is far more than winter months. All these factors contribute to increase in intentional firearm injuries(18).

Another observation is that intentional firearm cases are more common in younger age group, 44.66% cases observed in 21-40 year age group studies conducted from 1985-90 and 1990 by Fingerhut LA and Kraus JF, Rock A, Hemyari P are in support of our study(19, 20). The common reason observed in this age group is that aggression, particularly among males is a dominant feature, which is age bound. This factor is not observed in children and old age group.

In addition, easy availability of weapons compounds the assault.

4.66% of the total cases were suicidal in nature and an interesting observation is that age of such cases belong to 21-40 years. Worldwide the most common method of suicide is hanging and poisoning which is contradictory to this study. Some factors usually not reported by the family such as medial issues or psychiatric problem may be the reason(21).

In the present study trunk is the most commonly targeted site (48.66%), there are multiple reasons to choose trunk for such purposes. It could be easily targeted, the chances to miss the target at a distance are less, it also contains vital organs, which when damaged could result in fatal outcome(22).

Head and neck is most common site for suicidal cases (71.43%) succeeded by trunk (28.57%)(23).

In majority of the cases no apparent cause was observed. (46.66%), of the known cases (40.66%) cases were the outcome of revenge and (3.33%) were due to acute aggression or hot argument.

It has been observed in the study that the victim was unaware of the assailant (52%) however, in (40%) cases assailant was known. So far study have suggested that majority of the cases were observed among young age group who appear to be more aggressive, family disputes and to settle the issues to personal level is the dominating features.

CONCLUSION

Study concludes that not believing in the judicial system of the community added with multiple other factors leads intentional firearm injuries a dominant cause of fatal injuries observed in the society. Law should be enforced strictly on the use of illegal firearm weapons, as reported that in majority of the cases weapon used was illegal.

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