

# Social Aspects of Penetrating Injuries Presenting in Surgical Emergency of Mayo Hospital

S A NAQI K M GONDAL S AFRIDI T A SHAH

Department of Surgery, Mayo Hospital/King Edward Medical College, Lahore  
Correspondence to Dr. Syed Asghar Naqi, Assistant Professor

A study on social aspects of penetrating injuries was carried out at the surgical emergency of West Surgical Unit, Mayo Hospital, Lahore from 15<sup>th</sup> of February 2003 to 15<sup>th</sup> June 2003. A total of 80 patients were included. Our study shows that 86.25% of the patients were males and their ages were 40 years in 82.5%, 78.25% of the injuries were caused by firearms. 27.5% of patients had more than 4 injuries. Abdomen and chest were the most common target. The reason included financial matters, land, family and property disputes. 26.25% of the assailants were closely related to the victim. A large number of patients were unable to reach the hospital after injury within an hour. We need better laws to control this violence and also to improve resources for transportation of these victims to a trained and well equipped trauma centre.

**Key words:** Penetrating injury, firearm injury

Trauma is one of the leading causes of presentation to the surgical emergency and penetrating injuries form a large percentage of trauma cases. With easy availability of firearms as well as other weapons the number of people injured by them has increased considerably in the last 20 years or so. The pattern of penetrating trauma has changed from sharp objects/hand held firearms to high velocity sophisticated assault weapons.

Countries like USA and South Africa have a high incidence of civilian violence. Whereas countries like Pakistan are also not far behind. With the political strife that our region has seen and is still witness to, the rise in civilian violence is unprecedented. We decided to conduct a study to look at the social aspects of victims of penetrating trauma presenting at the Emergency of West Surgical Unit, Mayo Hospital, Lahore.

## Materials and methods

This descriptive study was carried out at the surgical emergency of Mayo Hospital, Lahore. The patients presented at West Surgical Unit emergency call (36 hours/week, ¼ Sundays) were interviewed and a specially designed proforma was filled. Besides noting down the particulars of every patient, information was recorded about the type of injury, number of injuries, areas injured, duration between injury and presentation. The patient was also asked about the cause of injury and it was also confirmed by other sources and we also took down the relationship between assailant and victim. This did not include data of patients with penetrating trauma who were received dead or referred to other specialities like Orthopaedics.

## Results

The study was conducted for a period of 4 months from 15<sup>th</sup> February 2003 to 15<sup>th</sup> June 2003. The data of a total of 80 patients was collected. Sixty nine (86.25%) of them were males and 11(13.75%) were females.

Majority of the patients were of 40 years of age or less. Age group 21-30 years had the maximum number of patients which is 30(37.5%). Table 1 shows the details.

Table 1. Age groups of patients.

Age group ( years)	n=	%age
13-20	17	21.25
21-30	30	37.5
31-40	19	23.75
41-50	6	7.5
51-60	4	5
>60	4	5

Most of the victims had basically a firearm injury i.e. 63(78.75%). The rest had injuries by knives, daggers etc., 17(21.25%).

Table 2. Weapons used

Nature of weapon	n=	%age
<b>A) Firearms</b>	63	78.75
Low velocity	45	56.25
High velocity	9	11.25
Shot gun	9	11.25
<b>B) Sharp Weapons</b>	17	21.25
Knife	12	15
Dagger	2	2.5
Sickle	1	1.25
Glass	1	1.25
Iron rod	1	1.25

Most of the patients i.e., 41(51.25%) had received a single injury but the second larger group had more than 4 injuries i.e., 22(27.5%). Table 3 shows the number of injuries inflicted to a single patient.

Table 3.

No. of injuries	n=	%age
1	41	51.25
2	8	10
3	6	7.5
4	3	3.75
>4	22	27.5

Table 4 shows several of areas of body which received the injuries.

Table 4.

Body area injured	n=	%age
Head & neck	4	5
Chest	13	16.25
Abdomen	25	31.25
Abdomen and chest	8	10
Upper limbs	3	3.75
Lower limbs	19	23.75
Inguinal region	1	1.25
Multiple	8	10

Most of the patients presented within few hours of injury but a significant number took quite a while to reach the hospital. Table 5 shows the duration between injury and presentation.

Table 5.

Duration	n=	%age
<1 hour	25	31.25
1-2 hours	18	22.5
2-4 hours	10	12.5
4-6 hours	5	6.25
> 6 hours	17	21.25
Days	5	6.25

Majority of the patient received injuries during night time. Table 6 shows the time at which injury took place.

Table 6.

Time of injury	n=	%age
3.00am – 9.00am	13	16.25
9.00am – 3.00pm	15	18.75
3.00pm – 9.00pm	27	33.75
9.00pm – 3.00am	25	31.25

Sixty seven patients (83.75%) received injuries which homicidal intent 12(15%) were reported to be accidental and 1(1.25%) was suicidal. Table 7 shows the reason behind the attack.

Table 7.

Reason of conflict	n=	%age
Financial	25	31.25
Sexual	4	5
Political	2	2.5
Property	7	2.5
Revenge	7	8.75
Jealousy	4	5
Terrorist	3	3.75
Family disputes	10	12.5
Land disputes	10	12.5
Others	8	10
Religion	-	-

Table 8 shows the relationship of the assailant to the victim.

Table 8

Relationship	n=	%age
Brother	3	3.75
Brother in law	5	6.25
Nephew	2	2.5
1 <sup>st</sup> cousin	1	1.25
2 <sup>nd</sup> cousin	2	2.5
Friend	8	10
Husband	1	1.25
Neighbour	13	16.25
Enemy	11	13.75
Dacoits	15	18.75
Tenant	1	1.25
Others	17	21.25

### Discussion

When we thought of conducting this study our main concern was to know the various factors which led to this violence and the relationship of assailant to the victim i.e., "WHO SHOTS WHOM & WHY?"

Besides getting information on this very important social aspect we also discovered some others important facts which throw light on the large impact this violence is creating on our society.

Though our study has only 80 patients over a period of 4 months but this is only the data of ¼ of the surgical floor of Mayo Hospital. Besides those patients who were received dead or referred to other specialities like orthopaedics were not included in this study.

Our study shows that the overwhelming majority of victims of penetrating trauma are males (86.25%) and that their ages are < 40 years (82.5%). It is nearly similar to the data of U.S.<sup>1,2</sup>. It shows that the most productive age group and the major bread earners of the family are the victims. It also tells us the financial impact on family is usually devastating if the victim dies or is permanently disabled.

It is also clear from our study that penetrating trauma in our society is usually caused by firearm (78.75%). In which the major share is of low velocity hand held weapons (56.25%)<sup>5,6</sup>. This also resembles the western data and shows the easy availability of firearm what we need is a stronger gun control which at present is non existent<sup>3,4</sup>.

Though 51.25% of the patients received a single injury the next peak is at >4 injuries (27.5%) which clearly shows the intent of homicide or permanent disability. No area of the body was immune from injury but abdomen, chest and lower limbs were the most common targets which perhaps show the amateur nature of the assailants.

Only 31.25% of the patients were able to reach the hospital within one hour of the injury. It shows the paucity of the services to transfer these patients to hospital. It also

points out to the fact that most if not all of penetrating trauma victims are referred or rushed to the tertiary care hospitals which shows the lack of resources to deal with these patients locally.

Another interesting feature was the time of incidence in 65% of the cases it was from 3pm to 3am. 83.75% of the victims were injured by homicidal intent. The reason behind violence was financial in 31.25%, family disputes 12.5%, land 12.5% followed by property disputes (8.75%) and revenge. It also included victims of terrorist attacks, political rivalry or sexual relationship.

The assailant in majority were not related to the victim but a significant number 26.25% of the assailants were either friends, cousins, nephews, brothers or even real brothers. We did not find any parent shooting their children or vice versa.

You don't need to be a social scientist to see the social impact of this violence. The need is to have a just and fair society with educated citizens. Though a stronger gun control may also prove beneficial.

As surgeons it shows the dire need of more facilities for these trauma victims and better trained and well equipped staff to deal with the ever growing number of such patients.

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