

An Autopsy Based Study of Pattern of Firearm Injuries in Karachi, Pakistan

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Abstract

To assess the pattern of fire arm injuries in Karachi amongst medico legal deaths autopsied at all the three mortuaries of Karachi that is, Civil Hospital, Abbasi Shaheed Hospital and Jinnah Post Graduate Medical Centre. It is a descriptive form of study which involves deaths due to firearm injuries and underwent autopsy in three major medico legal centers of Karachi that is Civil Hospital, Abbasi Shaheed Hospital and Jinnah Post Graduate Medical Centre from 1st January 2011 to 31st December 2012. Variables include basic demographics, site and frequency of firearm injuries and also the manner of death. In our study out of 2006 autopsies performed 47.05% (n=944) medico legal deaths were due to fire arms. Out of them 98.62% (n=931) were homicidal and 1.37% (n=13) were suicidal. The age group most affected was of 16-30 years 50.52% (n=477). 65.78% (n=621) had unknown identity. Male to female ratio was 18:1 (M=896 and F=48). The most commonly targeted parts of the body in order of frequency were head 44.17% (n=417), chest 28.49% (n=269), abdomen 7.83% (n=74), head and chest in 3.49% (n=33) (and head chest and abdomen in 4.66% (n=44) cases. The study concluded that homicidal firearm injuries contributed as one of the foremost cause of death. Majority of the victims were identified and were males. The age group of 16-30 years was most affected. The most commonly targeted body part was head.

Keywords: Firearm injuries; Homicide; Medico legal; Autopsy; Karachi

Introduction

The eight leading cause of death in the world is violent injuries [1]. Violence through firearm weapon not only causes a high death toll but also leads to momentous morbidity, physical and psychological handicapped individuals, families, communities and societies [2]. The risk factors associated with firearms are amendable; and if promptly documented and addressed could decrease the burden of violent deaths.

There is an un equal ratio when we compare death rates due to firearm among developed and developing countries. The graph of firearm related deaths continue to fall among countries like United States of America [3] England [4], Saudi Arabia [5] whereas its considerably high when we compare them to India [6], Nigeria [7], Egypt [8], Kenya [9], Bangladesh [10]. In Pakistan, especially according to the statistical data, the use of firearm weapon continues to increase with each passing year [11]. Due to tribal culture and borders with Afghanistan, almost all kinds of sophisticated weapons manufactured are smuggled throughout Pakistan.

Studies on patterns of firearm related homicide well- documented almost among all the western countries. However, in a country as Pakistan where illegal use of firearms is a common practice, proper documentation of homicidal firearms are available of few cities.

The aim of our study is to see the pattern of deaths due to firearm injuries among medico legal deaths autopsied at all the three major mortuaries of Karachi.

Materials and Methods

The criminal law in Pakistan requires that the firearm injuries occurring anywhere should be reported to the concerned medico legal officer in the setting of a recognized government hospital of the city. The details of these cases are recorded in an official record book maintained at each of these hospitals. In the event of death due to firearm, post mortem and autopsy reports are also included in this book. At the

completion of each calendar year, these official records are submitted to the Police Surgeon Office.

We did a cross sectional study to find out the number of cases of firearm injury involving deaths in Karachi reported in three major government hospitals with medico legal officers during the period of two years that is, from 1st January 2011 to 31st December 2012. These hospitals were Civil Hospital Karachi (C.H.K.), Jinnah Postgraduate Medical Centre (J.P.M.C.), Abbasi Shaheed Hospital (A.S.H.). The data concerning these hospitals were directly retrieved from the Police Surgeon Office, Karachi. For the purpose of the study, firearm death was defined as "death resulting from firearm weapons either by oneself or a third person." Every death meeting this criterion was included in the study irrespective of any socio demographic variables.

For the purpose of data collection, informed and written consent was taken from the office of police surgeon. The official records of patients were used to fill a structured Performa. This Performa was divided into three parts. The first part included socio demographic variables such as age, sex, occupation, ethnicity and religion. The second part comprises of the manner of death; whether it was suicide or homicide. In the last part of the Performa, the anatomical body parts involved was noted.

Data obtained in this way were entered in the SPSS version 17.0 and analyzed by using descriptive analysis.

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Result

In our present study out of 2006 autopsies performed for medico-legal purposes; 47.05% (n=944) deaths were identified to be due to firearms. Out of these 944 firearm deaths; 98.62% (n=931) were declared homicidal and 1.37% (n=13) were suicidal. Sadly this shows the deadly usage of firearms in our population.

The minimum age of our study population was 10 years and maximum was 75 years. The mean age was found to be 32.30 (+17.43). The age of all the victims was divided into five age groups. Out of these age group were 16-30 years; 50.52% (n=477) was most affected, followed by 31-45 years which made up to 35.38% (n=334) of the included population. This indicates that major chunk of our younger people faces un-natural death due to fire-arms. Age less than 15 years and more than 61 years were found to be less prone to firearm deaths (Table 1).

A new information that we came across was that among the fatalities, 65.78% (n=621) could not be identified; as in the national data base failed in proving such people's identity. Male were dominant victim 94.91% (n=896) and females involved were 5.08% (n=48). Male to female ratio was 18:1 approximately.

The most commonly targeted parts of the body in order of frequency were head, 44.17% (n=417) followed by chest, 28.49% (n=269). Detail is shown in Table 2.

Discussion

Our study showed that majority of the deaths was homicidal. Younger males were the most affected group. The body part most vulnerable to fatal death was head. Majority of the victims failed to have a proven identity.

Many studies have showed suicidal fire-arm deaths to be more common [12] but according to our study homicidal form of firearm death is most common; this coincides with other studies conducted in different cities of Pakistan [13-16]. Locally in Karachi, unlike other urban areas of Pakistan, elements associated with homicides are usually political vendetta, sectarian violence and street crimes beside classical elements that are Zar (money), Zan (women) and Zameen (land/

Age Group (In Years)	Frequency (n)	Percentage (%)
0-15 Years	14	1.483
16-30 Years	477	50.529
31-45 Years	334	35.381
46-60 Years	91	9.639
61 and Above	28	2.966
Total	944	100.00

Table 1: This shows the age distribution among the victims of firearm injuries.

Part of Body Involved	Frequency (n)	Percentage (%)
Head	417	44.17
Chest	269	28.49
Abdomen	74	7.83
Head, Chest, Abdomen	44	4.66
Chest and Abdomen	10	1.05
Head and Chest	33	3.49
Abdomen and Lower Limb	02	0.21
Upper Limb	04	0.42
Lower Limb	03	0.31

Table 2: This shows the most commonly involved body part among the victims of firearm injury.

property), domestic violence, adultery (Karo Kari, honor killing). Unemployment, poverty and substance abuse have further aggravated the problem.

Males were proved to be a higher risk group in other studies too [17-19] and age group 16-30 years was most prone to firearm death as illustrated by other studies conducted [20-22]. Our finding of high proportion of firearm related injuries among male could be due to their gender role which compel them to be more exposed to the outside environment than females.

The body part mostly exposed to injury was head [23]. Since injury to head is usually fatal; maybe that is the reason the why the assailant prefers this easy form of homicide. The identity of majority could not be known. The national data-base failed to identify the victims. This issue should be promptly addressed by the government authorities; keeping the view that our country is almost always under terrorist activities.

The high rate of homicidal deaths in a metropolitan city like Karachi creates a question mark on the law governing bodies and the high authorities who claim to spend a wholesome amount on the security of the people. Loss of one's life is equivalent to loss of humanity. Loss of youth results in loss of energetic work force on one hand and bread earners on the other, both posing great economic burden on the national economy. Helping and encouraging youth to manage anger. Publicizing good role models among youth also furnish their minds with positivity. Promising education and career opportunities as most people resort to criminal acts because they do not have any means to sustain a career. Installation of street lights can also help in reducing street crimes. Proper strategies and policies regarding licensing of firearms, maintaining law and order, eradicating social evils, inequity, inequality by prompt judiciary actions should be made to bring down the rising graph of homicidal deaths by firearms.

This is three-centre study thus difficult to generalize the results and to calculate the rate of firearm injuries in our population. Other types of violent injuries like bomb blasts and burns are not included in our study though they are common in the city. Despite these limitations, our study provides valuable information on firearm-related deaths in a low socioeconomic population. In addition, it provides some of the approaches to prevent these kinds of injuries.

Conclusion

The study concluded that homicidal firearm injuries contributed as one of the foremost cause of death. The majorities of the victims were identifiable and were men. The age group of 16-30 years was most affected. The most commonly targeted body part was the head.

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