Original Article

Analysis of Medicolegal Autopsies in Quetta, Balochistan

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ABSTRACT

Introduction: Medicolegal autopsies can be valuable source of data on ascertainment of specific causes of reported deaths, particularly homicides in a particular geographic area. The present study provides information regarding the medicolegal deaths which autopsied in Quetta Balochistan.

Objectives: The aim of this study is to analysis the pattern of injuries, age group, gender, causative agent, cause and manner of medicolegal death found on autopsies of Quetta and its suburbs that follows the traditional pattern of life and considers as a backward society.

Study Design: Retrospective study of Medico Legal autopsies referred by police for complete medicolegal autopsy at Police Surgeon medicolegal department of Sandeman Civil Hospital, Quetta Balochistan.

Place and Duration of Study: This study was conducted at Medicolegal Department of Sandeman Civil Hospital Quetta from 1st January 2006 to 31st December 2008.

Materials and Methods: The present study is based on record of 122 medicolegal deaths autopsied during the study period in the mortuary of Sandeman Civil Hospital Quetta affiliated with Bolan Medical College Quetta from 1st January 2006 to 31st December 2008.

Results: Out of 122 medicolegal autopsies Males accounted for 90.16% and Females were 9.84%. Male: female ratio 9.16:1. The majority cases 45 (36.88%) were in the age group of 20-29 years followed by 34 (27.86%) cases in age group of 30-39 years.

Most common cause of deaths in majority of cases was firearm 59 (48.36%), bomb blast explosions 12 (9.83%), sharp force injuries 9 (07.38%), blunt injuries 5 (04.10%), burn 4(03.28%). Homicidal deaths constituted 90 (73.77%), accidental deaths (9.84%), suicidal 3 (2.46%), undetermined 2 (01.64%) and natural deaths 15 (12.29%). The head and trunk is most affected area in cases of physical trauma

Conclusion: study concludes that homicidal deaths by firearms were observed in majority of medicolegal deaths.

Key Words: Deaths, medicolegal autopsy, Quetta.

INTRODUCTION

Quetta is the capital of the Balochistan, a province of Pakistan, with modern and traditional ways of living. According to census report of 2005, Quetta had the population of 815,914 and is the 8th populous city of Pakistan.[1] Balochistan constitutes about 44% of the country's land area, with a population of about 8 million people. The community is very conservative and follows the traditions.[2] However with spread of education and awareness among local peoples, social scene and life style is changing.

Civil Hospital Quetta is named after Sir Robert Sandeman the first British Agent of the Governor General and Chief Commissioner in British Balochistan.[3] British Balochistan remained a part of the British Empire till 1947, when the partition of British India gave birth to two states, Pakistan and India, and Balochistan merged in Pakistan.[4]

Medicolegal autopsies provide evidence for legal action, and show and make available data on ascertainment of specific causes of unnatural death (homicides, accidents, suicides, etc.) in a particular geographic area. The unnatural death is one of the indicators of social and mental health status of the society.

Homicide refers the death of one human being as the result of conduct of another. Homicide rates differ from country to country and community to community all over the world. Globally the homicide toll is 1.6 million deaths per year.[5]

Many workers have studied the different topics of medicolegal interest in different parts of the world, but here in Balochistan, not a single study was carried out on this subject. So, this study is carried out to find demographic information and find out cause and pattern of unnatural deaths in Quetta. We present baseline data obtained from our study results and analysis.

MATERIALS AND METHODS

Study design: The study is retrospective study

Place of study: This study was conducted on all medicolegal deaths referred by Police for complete medicolegal autopsy at Sandeman Civil Hospital Quetta, a teaching hospital of Bolan Medical College Quetta during January, 2006 to December, 2008. The autopsies were performed in mortuary of medicolegal department.

Duration of study: From 1st January, 2006 to 31st December, 2008.

Sample size: material for this study consists of 122 complete medicolegal autopsies performed in Sandeman Civil Hospital Quetta during a period of 3 calendar years (from 1st January 2006 to 31st December 2008).

Sample Selection: The cases selected on the basis of Police inquest, history and circumstances of case, relative's statement, medicolegal autopsy findings and hospital record case files. The medicolegal autopsies consists of general physical examination, cloth examination, external and internal examination of deceased persons were thoroughly and carefully carried out in mortuary.

Data Collection: Data were collected on especially designed proforma related brief information pertaining to age, gender, address, incident as per police record, circumstances leading to death, type of offending weapon causing death, the wounds found on the body and location of wounds was compiled.

The death cases disposed off/handed over without medicolegal autopsy were not included. The postmortem examination of decomposed body and exhumations were not included.

Data analysis: The data thus collected and analyzed on M.S Excel.

Ethical consideration: Permission was obtained from Police Surgeon, Sandeman Civil Hospital, Quetta for collection of the relevant data from record for entire study.

RESULTS

A total of 122 medicolegal deaths were reported to the Sandeman Civil hospital Quetta and subjected to medicolegal autopsy over 3 years (2006-2008) period.

Table No.1: Demographic Data of Autopsies (n-122).

Variables	Number of cases	Percentage
Age group (in years)		
1-9	06	04.92%
10-19	09	7.38%
20-29	45	36.88%
30-39	34	27.87%
40-49	16	13.11%
50-59	09	7.37%
60-69	02	1.64%
> 70	01	0.82%
Gender		
Male	110	90.16%
Female	12	9.84%
Locality		
Urban	75	61.47%
Rural	47	38.53%

In this study the age range was from less than 9 years to more than 70 years. The majority cases 45 (36.88%) were in the age group of 20-29 years followed by 34 (27.86%) cases in age group of 30-39 years. While a small number of autopsies were aged below 9 years 06 (04.92%) and above 70 years 1(0.82%).

Males outnumbered the females with a ratio 9.16:1

The number of autopsies of victims reported from urban areas was high as compared to the urban areas (Table-I). The age and gender distribution is presented in Table-I

Table-2 shows maximum cases of deaths were due to firearms injury 59 (48.38%) followed by bomb blast explosions (9.83%), sharp edged weapon (07.37%), Blunt weapon (04.09%), Natural (Sui) gas poisoning (03.27%), Burns (03.27%).

Table No.2: Cause Leading to Death Ascertained on Autopsies (N-122)

Cause leading to death	Number of cases	Percentage
Firearm injury	59	48.36%
Sharp force injury	09	07.38%
Blunt weapon injury	05	04.10%
Bomb blast injuries	12	09.83%
Burns	04	03.28%
Electrocution	02	01.64%
Coalmine accident injury	01	00.82%)
Custodial deaths	03	02.46%)
Mechanical asphyxia	03	02.46%
Drowning	02	01.64%
Poisoning	03	02.46%
Natural gas poisoning	04	(03.28%
Natural disease	15	12.29%
	122	100%

Table 3 shows homicide was cause of 90 (73.77%) deaths, accidents were cause of 12 (9.84%) deaths and suicides were the cause of 3(02.46%) deaths.

Table No.3: Manners of Deaths

Manner	Number of cases	Percentage
Homicide	90	(73.77%)
Accidents	12	(09.84%)
Suicide	03	(02.46%)
Natural deaths	15	(12.29%)
Undetermined	2	(01.64%)
Total	122	100

Table 4 shows 59 persons died due to firearm inflictions. The maximum number of firearm fatalities 27 (45.76%) were seen in the age group of 20-29 years followed by 12 (22.33%) deaths in 30-39 years age group. All victims were male and manner of death was homicide.

Table No.4 Age Distribution Of Firearm Fatalities (N-59)

Age (in years)	Number of cases	Percentage
1-9	01	01.69%
10-19	05	8.47%
20-29	27	45.76%
30-39	12	22.33%
40-49	08	13.55%
50-59	04	06.77%
60-69	02	03.38%
70 & above	Nil	Nil
Total	59	All males

Table 5 shows the number of fatal injuries sustained and their distribution in body. Most of the injuries of head, neck and face 86 (34.81%) followed by those of chest 63 (25.50%) and abdomen.

Table No.5: Regional Distribution of the Firearm Injuries

Regions involved	Number of cases	Percentage
Head, face & neck	86	34.81%
Chest	63	25.50%
Abdomen	52	21.05%
Upper limb	34	113.76%
Lower limb	12	04.86%
Total	247	100

DISCUSSION

Death is inevitable to every live creature. Allah says in His Holy Book, Quran "Every soul has to taste death".[6] The loss of a human being especially in uncertain circumstances inflicts enormous psychosocial trauma and grief to individuals and close relatives. The death of a patient due to terminal illness is believed as desire or wish of God but death resulting due to violence, deliberate act or negligence of others; makes a loud demand for justice and prevention.

The necessity for searching answers to various questions in doubtful cases of death was evident to mankind since beginning. The legal system and forensic medicine both have attempted to resolve such problems amicably. The purpose of a post-mortem examination was to find a definite cause of death. Every country has its own legal system regarding post mortem examinations and issuance of death certificates. Medicolegal autopsy is performed in pursuance of law to establish the cause and manner of death and to establish or rule out foul play. These autopsies comprise the cases of deaths due to criminal assault, poisoning and accidents.[7]

The cause of death could be defined as disease or injury which results in death of the individual. The manner of death explains how the cause of death came about. These include natural deaths**,** accidental deaths, homicidal deaths, suicidal deaths and undetermined deaths. Natural deaths are consequences of many pathological conditions and endogenous as well as exogenous factors are responsible for those. But unnatural deaths are due to exogenous factors alone. An unnatural death involving a cognizable offence attracts police investigation, postmortem examination, prosecution, finally trial by the court of law and Justice.[8,9]

Deaths are often not autopsied, or ignored by the people for various reasons.[10] Autopsy is not in police or public interest or when the cause of death is evident**.** Occasionally, the deceased's family refuses the autopsy and aborts prosecution because of social, cultural and religious traditions and beliefs.[11] Objections to autopsy have been reported from studies in Asia and Africa and reasons for refusing autopsy usually include, religious objections, dislike of the procedure, fear of mutilation of body, cultural reasons, deceased is too young or female.[12] For civilian, in Sandeman hospital Quetta, medicolegal officer conducts postmortem autopsy examinations and a senior medical officer, the Police Surgeon, is the supervisor of all medicolegal work and In-charge of the department.

The United Nation's global study on homicide statistics; "on trends and patterns in homicide" estimates that the total number of annual homicides in the year 2010 was 468000. Findings connect firearm availability and higher homicide levels; 42 percent of global homicides are actually committed with firearms.[13]

During study period 122 medicolegal autopsies were carried out in this hospital. Males outnumbered the females 110 (90.16%) to 12(9.84%). Male to female ratio in the studied period was 9.16:1. This finding is consistent with other studies.[11,14,16,23,29]

This may be due to males' predominant contribution in daily working life, exposing them to all sorts of violence and facing many stress factors. While great majority of women in Balochistan are housewives and remain dependent on men.

The commonest age group of the subjects was 20-29 (36.88%) followed by the age group 30-39 years ((27.86%). These findings are consistent with the findings of studies conducted in Pakistan[18-21]and other countries.[11,30,31]

This age group represents economically active age and depicts an economic loss to family and nation. Person of this age travel more and work widely in search of livelihood and are more likely to be involved in accidents and fatal disputes.

Our study shows that firearm was the most common causative agent in medicolegal deaths 59 (48.38%) followed by bomb blast explosions (9.83%). sharp weapons (7.37%), blunt weapon (4.09%) and burn death (03.27%).

Results are also comparable with forensic data from Rawalpindi[15,] Peshawar[16], Dera Ismail Khan[35],

Lahore[18], Faisalabad[28], Hyderabad[26] and Bahawalpur.[19] The studies revealed that primary method of committing homicide was by firearm weapon. The high number of criminal homicides has now become a major problem of our country and researchers pointed out the involvement of firearms in such deaths. The reason is that Afghanistan war created illegal firearms trafficking in Pakistan. Obviously number of deaths due to firearm weapons has also increased due to easy availability of all sophisticated and modern weapon firearms without a legal control.[34]

However, a study from Karachi[24] conducted in year 2002 showed that road traffic accident and firearms both were likewise responsible for majority of unnatural deaths. This may be due to the fact that Karachi is a mega city with high population and large number of vehicles on roads. Quetta has road traffic of low density as compared to Karachi.

Humayun M et al in a recent study from Dera Ismail Khan[25] observed that the firearm was most common method followed by bomb blast injuries in homicide. This is in line of our present report. Bomb blast injuries in Pakistan especially in Province of Khyber Pakhtunkhawa and Balochistan are becoming increasingly common over the last three decades mainly due to being front state in Afghanistan war.

In present study 4 people were suffocated to death from natural (Sui) gas poisoning. The reason is Quetta region remains severe cold in extreme of winter and temperature drops to below freezing point and people use natural (Sui) gas for room heating purpose particularly in night. One death was reported due to coal mining accident injury which occurred inside a coal mine in Quetta range.

Our study shows that firearm fatalities were 59 (48.38%), the most vulnerable age group seen of 20-29 years followed by 30-39 years. People of these age groups expected to be more productive and active from socioeconomic point of view. The study is in line with other studies.[28,32,33]

Our study revealed that the target area in firearm injury cases were found maximum in head area 86 (34.81%) followed by chest 63 (25.50%) and abdomen 52 (21.05%). Targeting upper part of body areas signify that aim of the attackers was shooting to kill the victim. Upper body torso contains vital organs brain, lungs and heart. Lethal injury to body's vital leads to rapid death. In agreement with these results, a study on firearm fatalities in Dammam, Saudi Arabia[36], observed the most common sites of firearm injury were the head (36.7%) and the chest (28.7%).

Homicide was the most dominant manner of death followed by accidents. Out of 122 cases, 90 (73.77%) were homicidal while only 12 (9.84%) were accidental in nature. Suicide counts 3 (2.46%) cases and natural 15 (12.29%) cases and undetermined 2 (1.63%). Similar studies were also conducted at Peshawar[14], Dera Ismail Khan[35], Faisalabad,[28,32] where homicidal deaths predominates. Our study differs from studies conducted at Hyderabad[23], Nigeria [17] and Dacca [27] which show accidental deaths predominated rest of unnatural deaths. Comprising percentage of homicidal deaths of our study, less number of homicides occurred in Lahore[18] and Nawabshah[22] as observed by researchers. This may be attributed to better policing, industrialization, employment, higher literacy, availability of health care facilities.

In 15 (12.29%) cases pronounced as natural death, the reasons were history of natural disease and absence of antemortem external injuries on bodied.

CONCLUSION

Firearm weapon was the most common weapon of offence used for homicide. The young adult male in age group 20-39 years are at the risk.

Efforts should be made for

- Strict implementation of firearm control legislation
- To design prevention measures through education and awareness
- To establish more trauma care facilities

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