Original Article

# Frequency and Pattern of Medico Legal Cases Reported at Sandeman Civil Hospital Quetta Balochistan- One Year Study

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## ABSTRACT

**Introduction:** Medicolegal cases are an integral part of medical practice that is frequently encountered by Medical Officers working in casualty department and dealing with Police/Court cases. To prevent the problem of increasing violence and criminal assault result in personal injury or death deserves a detailed examination.

**Objective:** To present the profile of medicolegal cases reported in the Sandeman Civil Hospital Quetta, a teaching hospital of Bolan Medical College Quetta, a tertiary care health delivery and medicolegal center for the entire city as well as its suburbs, with in the period of one year that is 2009. To highlight the vulnerable gender, age, cause (motive) and type of weapons used with seasonal frequency to assess the trend of the incidences and frequency of crime committed in different area of Quetta Balochistan with comparison to other parts of the country.

**Study Design:** Retrospective study

**Place and Duration of Study:** This study was conducted in medicolegal section of Sandeman Civil Hospital Quetta, from 1st January to 31st December, 2009.

**Materials and Methods:** 9915 medicolegal cases admitted in medicolegal registers/record by medicolegal officers were included. Cases found non-medicolegal excluded. The variable considered were gender, age, weapon or cause of injury, inhabitant and seasonal variations in medicolegal cases. Findings were expressed in numbers and percentages.

**Results:** Out of these 9915 medicolegal cases males were 8636 (87.1%) and females 1279 (12.9%).Maximum (33.46%) victims were age group of 20 – 29 years followed by 26.13% victims in age group of 30 – 39 years. Among this sample, the most common type of injury was Assault caused by blunt and hard object 5665 (57.13%) followed by Road traffic accidents 1945(19.61%), firearms 558 (05.62%), Urban inhabitant victims were 6143 (61.96%) and rural 3772 (38.04%). Most of cases occurred in summer than in winter.

**Conclusion:** Majority of victims were young adult males, urban inhabitants, blunt and hard weapons were commonly employed in this region for assault cases. More trauma care centers with necessary facilities are suggested in remote areas so the burden on main hospital can be decreased and life of trauma patients could be saved. Proper counseling for developing positive attitude and controlling the aggression in youth have to be promoted.

**Key words:** Medicolegal case, pattern, Quetta.

## INTRODUCTION

Medicolegal cases include all the eventualities where medical aspects of law, be it for criminal or civil purposes or legal aspects of medical practices are utilized for comprehension, interpretation and following for both professionals belonging to legal as well medical fraternities. Utilizing this knowledge by doctors and lawyers, serve the masses in their own directions and spheres.

General perception about the medicolegal cases is all those happenings where criminal force has been applied against the person whether sexual or physical, intentionally, inadvertently or accidently.

The quantum of medicolegal cases represent the magnitude of behavior and attitude in interpersonal conduct, respect for fellow human being, law of land, tolerance of a community and over all status of peace and harmony in a given society/country.

The data about the incidences and patterns of medicolegal cases belonging to various parts of the country is documented in the medical literature; ironically, Quetta has not shared its contribution in such a crucial statistics. Quetta is the capital of Balochistan, a blend of rural and urban culture, abode a pluristic society having followers of different traditions, displaying multiracial, multi religious, multi linguistic, multi tribal spectrum.

According to our knowledge till date there has been no such study ever conducted in Balochistan. Therefore realizing the need to establish baseline data on pattern of medicolegal cases, this present study was conducted in Sandeman civil hospital Quetta.

## MATERIALS AND METHODS

The cases which were brought to medicolegal examination and certification to medicolegal section

from 1st January to 31st December, 2009 in Sandeman Civil Hospital Quetta were included in the study.

Data regarding the medicolegal cases of assault, accident, poisoning and intoxication is incorporated in a especially designed proforma and results are tabulated, information regarding gender, age and inhabitant whether belong to rural or urban, cause of injury, weapon used for hurting the victim and time and season of sustaining wounds is incorporated for this study.

The total numbers of victims registered in the medicolegal section of the hospital were 10,395. On scrutiny, 480 cases were found non-medicolegal having nonviolence and showed no signs of injury on their body, probably these cases were of verbal altercation of parties or gestures or threats displayed by offenders. These cases were excluded from this study. The remaining numbers 9915 under study.

All findings were compiled by proforma for study. Findings of medicolegal examination, hospital record, police inquest, history and circumstances of each case were scrutinized and necessary data were used for analysis.

# RESULTS

In this study 9915 medicolegal cases were reported in medicolegal department during the period of one year (Jan 1st 2009, to Dec 31st, 2009). On average, 826 cases per month attended Sandeman Civil Hospital Quetta. Victims were predominantly males 8636 (87.1%) males and 1279 (12.9%) female. Males: females was being 6.75:1 (Table -1).

**Table No.1: Gender Distribution of Total Cases**

| Sex | No. of cases | Percentage |
|---|---|---|
| Male | 8636 | 87.1% |
| Female | 1279 | 12.9% |
| Total | 9915 | 100 |

**Table No.2: Age and gender distribution of total cases**

| Age group (Yr) | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. | % age | No. | % age | No. | %age |
| 0-9 | 365 | 4.23% | 72 | 5.63% | 437 | 4.41% |
| 10-19 | 1898 | 21.98% | 306 | 23.92% | 2204 | 22.23% |
| 20-29 | 2886 | 33.42% | 432 | 33.77% | 3318 | 33.46% |
| 30-39 | 2320 | 26.86% | 271 | 21.19% | 2591 | 26.13% |
| 40-49 | 644 | 7.46% | 81 | 6.33% | 725 | 7.31% |
| 50-59 | 355 | 4.11% | 63 | 4.93% | 418 | 4.22% |
| 60-69 | 118 | 1.36% | 36 | 2.82% | 154 | 1.55% |
| >70 | 50 | 0.58% | 18 | 1.41% | 68 | 0.69% |
| Total | 8636 | (100%) | 1279 | (100%) | 9915 | 100% |

Maximum 3318 (33.46%) victims were age group of 20 – 29 years followed by 2591 (26.13%) victims in age group of 30 – 39 years though (59.59) victims of age group of 21-39 years.. (Table–2)

**Assault/Violence: n= 7083 (71.44%):** Of the total reported cases, maximum number of cases were of assault by blunt and hard object 5665 (57.13%), Firearms account 558(05.62%) Sharp force (4.06%), bomb blasts 269 (02.71%), and domestic violence (00.35%).

**Accidents: n=2418 (24.39%):** Road traffic accidents account 1945(19.61%), fall 151(01.52%), electric shock 41(00.41%) coalmining accidents 113 (01.14%), railway accidents 51(00.51%), natural (Sui) gas poisoning 47(00.47%), burn 36(0.36%), drowning 3(0.03%).

**Poisoning and intoxication: n=414(4.17%):** Among these, cases of poisoning and drugs (03.77%) and alcohol ingestion 40 (00.40%).

All medicolegal cases reported in Medicolegal section during the study year (2009) are listed in Table 3.

**Table No.3: Mechanism /Cause of injury seen in medicolegal cases**

| Medicolegal cases | No. of patients | %age |
|---|---|---|
| Blunt assault injury | 5665 | 57.13% |
| Road Traffic accidents | 1945 | 19.61% |
| Firearm injury | 558 | 05.62% |
| Sharp force injury | 556 | 05.60% |
| Domestic violence | 35 | 00.35% |
| Falls | 151 | 01.52% |
| Machinery injury | 26 | 00.26% |
| Bomb blast injury | 269 | 02.71% |
| Electrocution | 41 | 00.41% |
| Natural (Sui) gas poisoning | 47 | 00.47% |
| Drowning | 03 | 00.03% |
| Burn | 36 | 00.36% |
| Coal mining accidents | 113 | 01.13% |
| Poisoning | 374 | 03.77% |
| Alcohol poisoning | 40 | 00.40% |
| Railway accidents | 51 | 00.51% |
| Others | 05 | 00.05% |
| Total | 9915 | 100 |

About inhabitants, victims belonged to the urban area of Quetta city were 6143(61.96%) where as cases belonged to rural areas of the Quetta and other areas of province adjacent to Quetta were 3772 (38.04%).

**Table No.4: Urban/Rural distribution of cases**

| Area | No. of cases | Percentage |
|---|---|---|
| Urban | 6143 | 61.96% |
| Rural | 3772 | 38.04% |
| Total | 9915 | 100 |

Most of cases 5123 (51.23%) have reported the medicolegal section during daylight times (6:00 a.m to 6:00 p.m) where after sunset to sun rise 4792 (48.33%) victims attended the section.

**Table No.5: Time of reporting/arrival**

| Time | No. of cases | Percentage |
|---|---|---|
| 6:00 am to 6:00 pm | 5123 | 51.67%age |
| 6:00 pm to 6:00 am | 4792 | 48.33%age |
| Total | 9915 | 100 |

Season wise cases were categorized and observed that during winter (November to April) number of cases were 3143 where as 6772 cases were brought during summer (May to October) with peak in month of September.

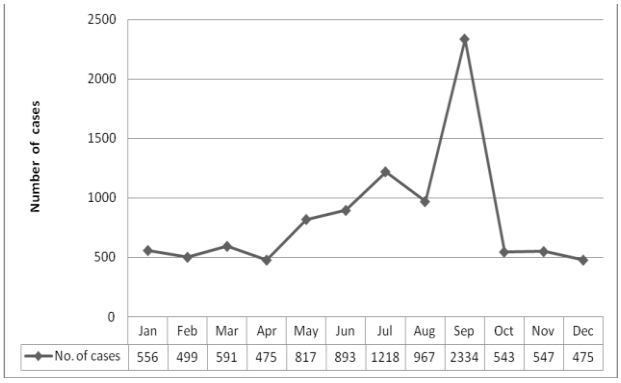


**Figure No.1: Monthwise variation in Medicolegal cases**

# DISCUSSION

In all government hospitals medical officer working, in the casualty department of, rural health centers, Tehsil/District Headquarter Hospitals, teaching Hospitals and Forensic Medicine Department of a Government Medical College are required to do medicolegal work of the concerned police stations. As a general rule in accident and emergency department, the injured person has been managed to safe his/her life and medical officer on duty may be asked to examine the injured/victim and completes the medicolegal task as well. The details of physical examination must be entered in medicolegal register and in death cases in postmortem autopsy register. The report submitted to police/court must be concise, clear and legible. All the injuries/wounds with the characteristics of tissues involved in wound must be recorded in detail. Authorized Medical Officer must use all the tools required to clear the nature of injury[1,2,3].

In Pakistan the medicolegal investigation for any forensic case are primarily ordered and decided by the medicolegal officer[4].They are required to write medico-legal certificate or report and send it to assist the law. They could be required to stand as expert witness in courts of law, thus medico legal injuries are of forensic significance as medico-legal reports on injuries could help authorities and courts of law to arrive at logical conclusions[5,6].

Sandeman Civil Hospital is located in the centre of Quetta city. It is a teaching hospital of Bolan Medical College and provides tertiary care health delivery and medicolegal service. The medicolegal work is supervised by Police Surgeon, a senior doctor of health department Balochistan and casualty medical officer/medicolegal officer do medicolegal examinations in police/court cases.

During the period of the study a total of 9915 medicolegal cases were registered for certification in medicolegal section of casualty Department of Sandeman Civil Hospital Quetta. Result shows Males comprised (87.1%) and females (12.9%) of the total 9915 cases. The Male: Female ratio being 6.75:1. The male predominance in our study is in line with various authors from Pakistan[7,8,9,10,11,] and worldwide[12,13,14,15] .

The reason may be we are living a male dominated society. Males are more involved in outdoor activities and women remain in house and are dependent on men. In a traditional society like Balochistan females are generally spared in quarrels but they are facing lot of problems in family honor values (Karo Kari).

In present study most commonly affected 3318 (33.46%) victims were in age group of 20 – 29 years followed by (26.13%) victims in age group of 30 – 39 years though (59.59) victims of age group of 21-39 years.

This was in accordance with Mirza HM et al [16] reported 59.3% victims of age 20-39 yrs. Hassan Q et al [17] reported 58.4% victims of age 20-39 yrs. Chaudhry TH et al [6] reported 58% of victims of age group 21-40 yrs. Bhullar DS and Aggarwal KK [2] reported 58.5% victims of age group 21-30 yrs. Oberoi SS et al[18] reported 55% victims of age 20-39 yrs. K Ali et al [19] reported 38.63% in age group 21-30 yrs. Humayun M et al [20] reported majority of victims were between 16-45 yrs of age.

The high incidence of cases in above age group may be explained by the fact that they are active phase of life and more of required to death outer world to pursuit work, travel, education, sports and social activities.

Most of assaults were caused by hitting blunt and hard objects had the maximum number of cases (33.42%).

Sharp force weapon used in (6.60%) cases, Blunt weapons are some of the most easily available weapon and used in fighting where the intention is to inflict harm not to kill. Sharp weapons still stand as a very frequent cause of medico-legal deaths. The present study found firearm was used in (6.64%) cases and Bomb blasts victims were (02.71%). Probably this shows individuals prejudice, tolerance, obedience to law and criminal bents of minds. Assault and homicide by firearm and bomb attack show extreme violence and cause of fatalities in our society.

It was found in our study that the most common mode of accident was road traffic accident 1945 (19.61%), followed by fall 151(1.51%), coal mining accident injury in workers (01.13%), natural (sui) gas poisoning (0.47%).Road Traffic Accidents are a large problem everywhere in the world. The high number of injuries attributed to RTAs caused by recklessness and negligence of the driver, complete disregard of traffic laws, over speeding, overloading, often driving under the influence of drugs, underage driving and poor conditions of roads and vehicles.

Poisoning has been fifth in rank of medicolegal cases and that too predominantly organophorous poisoning. A previous study on deliberate self harm also noted this point[21]. In Balochistan majority of the rural people are dependent on agriculture, vegetable and fruit farming. There is probability of easy availability and individuals accessibility of agriculture poisons. Such cases are preventable by use safer methods of pest control and counseling them personally.

The present study also found that the majority of cases were belonged to urban area 61.96% as compared to rural 48.33%.It has been by present study that the offence of medicolegal nature could occur at any moment in time but highest number of incidences 6772 (68.3%) were reported during summer from May to October. The high number of medicolegal cases in summer could be due to early loss of temperament in hot season, larger daytime and increased people's activity.

The majority of patients 6143 (61.96%) were brought in casualty between 06:00 am to 06:00 pm as compared by 06:00 pm to 06:00 am. In daytime hours people come in contact more with each other and traffic density in urban streets may be main reason. As for time of choice for violence or criminal acts happening is concerned, our study like other studies points to summer and daytime hour preference. This may be due to the habitat, tolerance, their needs and their local day to day activities.

# CONCLUSION

At this point it is needed that more studies are supposed to be conducted to further research and produce validate data in forensic and medicolegal issues in Balochistan. A proper surveillance system should be in place to monitor all the types of injuries as most of the victims belong to highest productive age group.

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