

Spectrum of Medicolegal Cases in Physical Injury at Chandka Medical College, Larkana, Pakistan

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ABSTRACT

Objective: To evaluate the profile of medico-legal cases and create awareness among persons towards traumatic casualties in the perspective of lowering these incidences in future.

Material and methods: - A two years retrospective study from July 2010 to June 2012 was done in the department of Forensic Medicine & Community Medicine Chandka Medical College, Larkana from the record of injured persons who attended the A&E Deptt. Chandka Medical College, Larkana.

Results: Of all injured persons admitted in A&E Department, 7.52% cases were of physical injury, males were affected about three times more as compared to females. The most prone age groups were from 16–45 years (64.18%). Majority of cases were accidental (51.42%) while attempted suicide was observed only in 0.9% cases.

Conclusion: Accidents are the leading causes followed by assault in a male from 16-45 years of life.

Keywords: - Medico-legal cases, physical injury, accidents, assault.

INTRODUCTION

A case of injury in general is to be labeled as medico-legal, when the attending doctor by taking history and doing the examination of the patient comes to know that it is required by the law-enforcing agencies to investigate and fix the responsibility for the case¹. The physical injury is the disruption of tissues caused illegally to any person by application of mechanical force, with the moving object or movement of the body². Though manner of injury is detected mainly on circumstantial evidence but to some extent the question can be solved by the Medico-legal officer by examination of injured person³. Thorough examination of the injured person helps in assessing the type of injury, body part involved and type of weapon used and from these observations manner of injury is determined. Accidents as the manner of injury account for in majority of cases, these injuries occur due to unplanned, uncontrolled event which has led to or could have led to injury to people⁴. Another manner of injury is assault which is due to any gesture or application of force causing harm to another person⁵, while attempted suicide, which is failing act of person to end the life and self inflicted injuries for the purpose of falsely implicating the other persons are also other manners of injury^{6,7}.

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Since such type of study has not been done earlier in this region, therefore we planned this study for the purpose of assessing the proportion & to ascertain the pattern of injury in the perspective of furthering of justice to mankind and to emphasize the need for developing prevention measures at national level.

MATERIAL & METHODS

Data was collected from the records of the injured persons regarding all four types of manner of injuries (Accidental, assault, self inflicted and attempted suicide) who attended casualty/ A&E Department of Chandka Medical College Hospital, Larkana from July 2010 to June 2012. This was retrospectively studied in the department of the Forensic Medicine & Toxicology Chandka Medical College, Larkana (CMCL) in collaboration with department of community medicine CMCL. The information relating to injured person's age, sex, manner of injury and the part of the body involved were filled on standard proforma and analyzed on SPSS 13. This study was approved by the ethical committee of Chandka Medical College, Larkana and the confidentiality of patients was maintained by just coding the proforma. All individuals of either sex and age with history of physical injury are included while cases of alcohol intoxication, poisoning & dead bodes are excluded.

RESULTS

During the study period total of 1, 34,772 patients were admitted, of whom 10,130(7.52%) were reported to have been injured physically, males were 7,578(74.8%) and females 2552(25.2%) with ratio 2.9:1. as shown in figure 1. Of injured persons most cases 39.83% were in age group 16–30 years followed by 24.35% cases in 31–45 years age group and the least number of cases 6.46% in the age group of above 60 years as shown in table 1. Most of the accidental injuries were on the head 2161(21.33%), followed by upper limb 1259(12.43%) and lower limb 677(6.68%), the least cases were of attempted suicide and fabricated injuries involving both vital and non vital parts (Table 2). The manner of injuries observed was accidental 5210(51.42%), assault 4632(45.73%), attempted suicide 91(0.90%) and self inflicted 197(1.95%) (Table 3).

Graph 1: Sex distribution (n=10130)

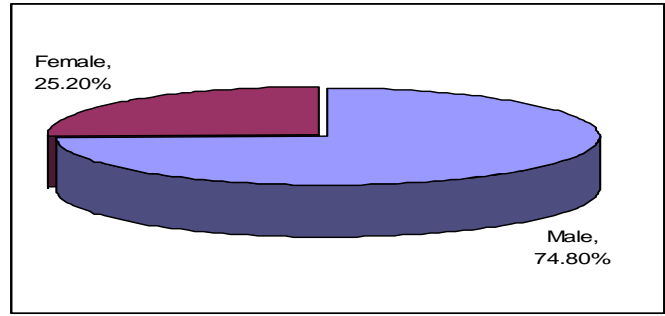


Table 1: Age distribution (n=10130)

Age Group	No.	%
5–15 Years	1431	14.13
16–30 Years	4034	39.83
31–45 Years	2467	24.35
46–60 Years	1544	15.23
Above 60 Years	654	6.46

Table 2: Correlation of involved body part to manner of injury (n=10130)

Body parts	Accidental		Assault		Fabricated		Attempted suicide		Total	
	No	%	No	%	No	%	No	%	No	%
Head	2161	21.33	1901	18.77	60	0.6	21	0.21	4143	40.91
Face	397	3.91	344	3.40	00	00	02	0.02	743	7.33
Neck	31	0.31	26	0.26	00	00	00	00	57	0.57
Thorax	487	4.81	197	1.94	02	0.02	06	0.06	843	8.32
Abdomen	198	1.95	197	1.94	22	0.22	14	0.14	431	4.25
Upper Limb	1259	12.43	1189	11.74	71	0.70	48	0.47	2567	25.34
Lower Limb	677	6.68	627	6.19	42	0.41	00	00	1346	13.28
Total	5210	51.42	4632	45.73	197	1.95	91	0.90	10130	100

Table 3: Manner of injuries (n=10130)

Manner of Injuries	No.	%
Accidental	5210	51.42
Assault	4632	45.73
Self inflicted	197	1.95
Attempted Suicide	91	0.90

DISCUSSION

Causing an injury to a person is existent since centuries but cases are on the rise through out the world specially in underdeveloped countries. It is important to interpret injuries for the proper disbursement of justice in any system⁸. In this study males were affected more than females with a ratio of 2.9:1 which is comparable with observations of other international studies conducted by Meer⁹ and Seegers et al¹⁰, who have shown male/female ratio as 3.8:1 however even more male infliction has been shown by many international and national workers like Garg and Verma¹¹, Tajmul et al¹², Ahmed et al¹³, Soomro et al¹⁴, Memon et al¹⁵, Khan et al¹⁶,

Nasurullah & Razzak¹⁷, who have reported male/female ratio as 5:1, 5.8:1, 6.8:1, 9.2:1, 10.7:1, 11:1, 11.5:1 respectively.

Males are more prone due to the fact that they are working and earning members in majority of families, thus leading to increased hazards of road, industry & violence in the developing world.

In this study majority of affected individuals (64.18%) were from 15 to 45 years of age. Our results are in close resemblance to other national studies conducted by Soomro et al¹⁴, Nasrullah & Razzak¹⁷ who have reported the 65.5% & 63% involvement respectively. Our results are also in consistent with another international study conducted in India by Bhullar & Aggarwal¹⁸. They have reported 58% involvement of persons in this age group. Our results are in contrast with study of Garg & Verma¹¹ who have revealed mere 33.8% involvement in this age group. The individuals in this age are usually careless, unaware of consequences and hence are more sustainable to injuries.

It is believed that accidental injuries are common at distal parts of the body where as intentional

injuries are frequently seen on proximal parts¹⁹. In our study accidental injuries seen on distal parts were 19.11% and on proximal parts 21.33%. Our results showing higher percentage of involvement of proximal parts, specially on the head, in road traffic accidents are due to the fact that traveling persons generally do not use seat belts or safety helmets in this area. Usually when the vital body part like face is involved in suicides, out come is almost fatal but our results show some cases 0.02% of attempted suicide. Fabricated injuries generally are seen over the non-vital parts but our results showing changing pattern as being present over the thorax observed in 0.02% of cases. In our study accidental cases were observed in 5210 (51.42%), our results are comparable with Ameh et al²⁰ who have shown 57% cases to be accidental injuries. Our results are higher than earlier study conducted nationally by Hassan et al²¹ who have shown 16.20% accidents. However higher results have been reported by various national and international workers who have reported accidents ranging from 79% to 84.3%^{22,23,24}. The accidental injuries involving significant number of cases are due to unsafe roads, improper patrolling, mostly unlicensed drivers, lack of safe walking spaces, crossing facilities and visibility factors.

In our study assault cases were seen in 4632 (45.73%), our results are lower than earlier reports in international literature observed by Kohli & Aggarwal²⁵ & Bhullar & Aggarwal¹⁸ who have reported 92.6% and 60% assault cases respectively. Our results showing lower percentage of assault cases are because of predominance of peace loving persons and strict control watch on issuing licensed weapons.

In this study self inflicted cases were 1.95% which is in contrast to study conducted in India by Bhullar & Aggarwal¹⁸ who have observed 34% self inflicted cases. Less number of cases in this study is due to the fact that in Pakistan people are strictly religious and do not harm other persons by implicating in false allegations.

In our study the least affected cases were seen as attempted suicide 0.90%. Our findings are significantly lower than other studies carried out in India by Garg & Verma¹¹ (8.3%). Very small numbers of attempted suicide cases are due to the fact that people in our area are God fearing and in Islam it is strictly forbidden, further more it is punishable as per Pakistani law.

Limitations of the study: Since this was a retrospective study therefore we could only look at the data whatever was entered by the doctors at the time of examination of patients attending in casualty / A/E department and no prescribed proforma was made / tested, hence every thing could not be elaborated on the basis of available findings.

CONCLUSION

It concludes that the accidental cases are on the rise followed by assault in males of young to middle age.

RECOMMENDATIONS

1. Quality of roads should be improved as per international standards, besides creating public awareness about road safety in order to minimize road accidents.
2. Public awareness/programs/campaigns regarding human values and how to become good citizens, be arranged from time to time in order to minimize attempted suicides / assaults.

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REFERENCES

1. Dorga TD, Rudra A. Medico legal injury. In: Dorga TD, Rudra A, editors. Lyons Medical Jurisprudence & Toxicology. 11th ed. New Delhi: Law House; 2007.P.367.
2. Shapiro HA. Wounds. Mechanism of wound production. In: Gordan I Shapiro HA, editors. Forensic Medicine a guide to principles. 2nd ed. Edinburgh: Churchill Livingstone; 1988. P. 221
3. Kirishan V. Injuries medicolegal considerations and types. In: Kirishan V, editor. Text book of Forensic Medicine and Toxicology. 3rd ed. New Delhi: Elsevier Publisher; 2005.p.299.
4. Accidents Available at: www.rospe.com . (Cited 15 Dec:2010)
5. Hussain SS. Mechanical injuries. In: Hussain SS, editor. Medical Jurisprudence and Toxicology. 2nd ed. Lahore: The Caravan Book House; 1983.P.88.
6. Awan NR. Medcial Aspects of law. In: Awan NR, editor. Principle and practice of Forensic Medicine. 1st ed. Lahore: subline Arts; 2002.P.25.
7. Parikh CK. Mechanical injuries – General Concepts: - self-inflicted wounds. In: Parikh CK, editor. Medical Jurisprudence. Forensic Medicine and Toxicology. 8th ed. New Dehli: CBS publishers & Distributors; 2004. P.4.24.
8. Mason JK, Purdue BN. The examination of the adult victim of assault. In: Mason JK, purdue BN, editors. The pathology of Trauma. 3rd ed. London: ARNOLD a member of the holder head line group; 2000.P.141.
9. Meer TH, Nabachandra H. A study of pattern and injury severity score in blunt thoraco abdominal trauma cases in Manipal. Medico-legal update 2005; 5(2):4-6.
10. Segers P, Van Schil P, JorensP, Van Den Brande F. Thoracic trauma: an analysis of 187 patients. Acta Chr Belg 2001;101(6):277-82.
11. GargV, Verma SK. Profile of Medicolegal cases at Adesh Institute of Medical Sciences and Research, Bathinda, Punjab. J Indian Academic Forensic Med 2010; 32(2):58-60.

12. Tajammul N, Chaudhry TH, Hanif S, Bhatti MA. Profile of Medicolegal cases at Jinnah Hospital Lahore. *Ann King Ed ward Med Coll* 2005; 11:332-5.
13. Ahmad I, Sema N, Humayun M, Raja A. Weapon of offence Used in Bodily Medicolegal Injuries in a Rural Area. *Med Forum* 2011; 22 (5):51-53.
14. Soomro HS, Shaikh AS, Abro AA, Shaikh. SM. Penetrating abdominal trauma: our experience. *Medical Channel* 2010; 16 (4): 548-51.
15. Memon AA, Bhutto AA, Shaikh GS, Jokhio A, Somro Q. Pattern of fire-arm injuries and out com. *Liaquat Uni Med Head Sci* 2009; 8(2): 143-5.
16. Khan WH, Mumtaz F, Farooka W, Khan IR. A review of pattern of penetrating trauma in surgical unit of Mayo Hospital, Lahore. *Ann King Edward Med coll* 2005; 11(4): 597-8.
17. Nasrullah M, Razzak JA. Fire-arm Injuries presenting to a tertiary care hospital of Karachi. *Pakistan. J Inj Violence Res* 2009; 1(1): 27-31.
18. Bhullar DS, Aggarwal K.K. Medico-legal Diagnosis & pattern of injuries with sharp weapon. *JIAFM* 2007; 29(4):1-3.
19. Sheridan DJ, Nash KR. Acute injury patterns of intimate partner violence Victims. *Trauma violence abuse* 2007; 8(3):281-89.
20. Ameh EA, Chirdan LB, Nmadu PT. Blunt abdominal trauma in children: epidemiology, management, and management problems in a developing country. *pediatr surg Int* 2000;16(7):505-9.
21. Hassan Q, Beshir MZ, Shah MM. Physical Trauma, a leading cause of Medicolegal cases at DHQ Hospital Abbottabad. *J Ayub Med Coll Abbottabad* 2010; 22(2): 159-62.
22. Khan US, Khan M, Khan AA, Murtaza B, Maqsood A, Ibrahim W, et al. Etiology & pattern of maxillofacial injuries in the armed forces of Pakistan. *JCPSP* 2007;17(2):94-7.
23. Henriksson EM, Ostram M, Eriksson A. Preventability of vehicle related fatalities. *Accid Ann Prev* 2001; 33:467-75.
24. Jha N, Agrawal CS. Epidemiological study of Road Traffic cases. A study from Eastren Nepal. *Regional Health Forum WHO South-East-Asia Region* 2004; 8(1):15.
25. Kohli A, Aggarwal NK. Fire arm fatalities in Dehli. *India Leg Med* 2006; 8 (5): 64 -8.