



STUDY ON PATTERN OF INJURIES AMONG ASSAULT VICTIM (SURVIVORS) AGED 15 YEARS AND ABOVE IN CENTRAL U.P

Forensic Science

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ABSTRACT

Violence is a leading cause of preventable injury worldwide. Injuries accounted for 10.1% of the global burden of disease in 2013. The proportion of disability adjusted life years (DALYs) due to disability (YLD) is much higher for collective violence (69.1%). The main contributors to injury DALYs are road injuries (29.3%), self-harm (14.0%), and interpersonal violence (8.4%).

Material and Methods: Present study is a hospital record based study carried out in Rama hospital and Research centre Kanpur (U.P). Where continuous service for medico-legal case is rendered

Duration of study: All medico legal cases from April 2017 to March 2019 whose record was available in hospital record section were studied.

Inclusion and Exclusion criteria All 851 cases between April 2017 to March 2019 with complete information which were included in the study and the cases with incomplete necessary information pertaining to the present study were excluded

Results: The study showed that in assault victims there was male preponderance (73.7%) over females (26.3%). Total 851 assault cases observed in this study, out of which grievous injury were 698 (82.0%) and 119 (14.70%) were simple in nature. In 34 injuries (3.3%) opinion reserved pending further investigations. In our study majority of injuries on males (82%) were simple in nature while (12.9%) injuries were found grievous in nature. In females there was (16.9%) grievous injuries and (80.4%) injuries were simple in nature. But in females only (2.7%) cases opinions regarding severity of injury were reserved pending According to site of injuries out of 851 assault cases maximum 445 (57.0%) injuries were inflicted over head & neck followed by 225 (26.4%) over anterior trunk 85 (10%) over back and 56 (6.6%) over upper and lower limbs

KEYWORDS

Assault, Victim (survivors), Grievous, Abrasion

INTRODUCTION:

Violence is a leading cause of preventable injury worldwide. Injuries accounted for 10.1% of the global burden of disease in 2013.5 The proportion of disability adjusted life years (DALYs) due to disability (YLD) is much higher for collective violence (69.1%). The main contributors to injury DALYs are road injuries (29.3%), self-harm (14.0%), and interpersonal violence (8.4%).[1]

Self-harm is the second leading cause of death from injury and it is a main contributor to injury DALYs, over the period 1950-1995 the global self-harm death rates were reported by WHO to have increased. Violence is preventable and is not inevitable. There is a need to address the economic and sociocultural factors that foster a culture of violence against women (VAW). Crimes of violence are increasing throughout the world. Non judicial assault, such as torture, has also become more widely recognized (2,3).

MATERIAL AND METHODS:

Present study is a hospital record based study carried out in Rama hospital and Research centre Kanpur (U.P). Where continuous service for medico-legal case is rendered **Type of Study** Retrospective record based study **Duration of study** All medico legal cases from April 2017 to March 2019 whose record was available in hospital record section were studied. Out of total 1424 injuries inflicted over victim's body, maximum 460 (32.28%) injuries were lacerations

where

*p = Prevalence of Violence = 31.3%;

*Swarnkar M et al. Int Surg J. 2016 Aug;3(3):1618-1622 in their study "Assault and self-harm injuries: pattern, severity and etiology of injuries in victims attending emergency department of teaching hospital in central India" were found that prevalence of assault injuries was 31.3%. [4]

$q = (100 - P)$

d (Allowable error) = 10% of prevalence = 3.13

$782 \pm 13.3(0.331100(3.3142 \geq -x \geq n)$

(All 851 cases who were admitted to hospital between April 2017 and

March 2019 with complete information were taken as sample for present study)

Case definition It has been suggested that the definition of physical injury in the forensic medical context should be "damage to any part of the body due to the deliberate or accidental application of mechanical or other traumatic agent" (2). This chapter specifically addresses the issues of physical assault and the assessment and documentation of wounds or injury. **Inclusion and Exclusion criteria** All 851 cases between April 2017 to March 2019 with complete information which were included in the study and the cases with incomplete necessary information pertaining to the present study were excluded.[5,6]

OBSERVATIONS AND RESULTS:

The study showed that in assault victims there was male preponderance (73.7%) over females (26.3%). (**Table 1**) Majority of males 196 (31.3%) were in 25-34 years age group and 57 (25.4%) females victims were aged between 35-44 years. (**Table.2**). Out of total 1424 injuries inflicted over victim's body, maximum 460 (32.28%) injuries were lacerations followed by abrasions 285 (20%). Contusions comprised 212 (14.9%) injuries while swelling present on different body parts were 259 (12.9%). Incised injuries were 179 (12%) and stab injuries were 48 (3.3%). There were two (0.2%) burn injuries and one fire arm injury noted. Laceration was commonest injury in both males and females. (**Table 3**)

Total 851 assault cases observed in this study, out of which grievous injury were 698 (82.0%) and 119 (14.70%) were simple in nature. In 34 injuries (3.3%) opinion reserved pending further investigations. (**Table 4 and FIG. 1**) In our study majority of injuries (82.6%) were simple in nature in males and 80.4% in females 12.9% injuries were found grievous in nature amongst males and 16.9% in females. In 4.6% cases opinions regarding severity of injury were reserved pending but in case of females, only 2.7% cases required to be labeled as pending opinion regarding severity of injury.

According to site of injuries out of 851 assault cases maximum 445 (57.0%) injuries were inflicted over head & neck followed by 225

(26.4%) over anterior trunk 85 (10%) over back and 56 (6.6%) over upper and lower limbs (Table.5)

In present study hard and blunt weapon was used in maximum 445 cases (52.3%) assault cases, followed by body parts (Kick, Fist nails, teeth etc.) were used in 261 (30.3%) cases while with sharp weapon in 58 (6.8%) cases. Pointed weapons used in 58 (6.8%) cases and other miscellaneous weapon including firearm weapon used in 29 (3.4%) assault cases. (Table.6)

Table 1: Gender wise Distribution of Total Assault Cases

Gender	Frequency	Percent (%)	95% CI
Male	627	73.7	70.7 -76.7%
Female	224	26.3	23.3 - 29.3%
Total	851	100.0	

Table 2: Age and Sex Wise Distribution of Assault Cases

Age group	Gender		Total
	Male	Female	
15-24	84 (13.4%)	33(14.7%)	117(13.7%)
25-34	196(31.3%)	17(34.4%)	273(32.2%)
35-44	176 (28.1%)	57(25.4%)	233(27.4%)
45-54	115(18.3%)	37(16.5%)	152(17.9%)
55and above	56(8.9%)	20(8.9%)	75(8.9%)
Total	627(100.0%)	224(100.0%)	851(100.0%)

Table 3: According to Type of Injury Inflicted

Injury type	Frequency	Percent(%)
Laceration	460	32.28
Abrasion	285	20.0
Contusion	212	14.9
Swelling	185	12.9
Incised	171	12.0
Fractured	60	4.2
stabbed	48	3.3
Burn	2	0.2
Fire Arm	1	0.14
Total	1424	100.0%

Table 4: Type of Injury According to Nature of Injury

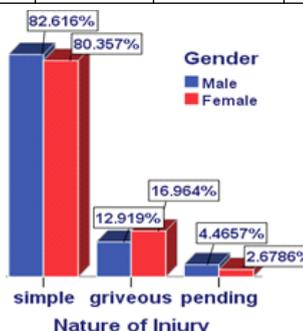
Nature of Injury	Frequency	Percent(%)	95% CI
Simple	698	82.0%	79.4 - 84.6%
Grievous	119	14.0%	11.7 -16.3%
Pending	34	4.0%	2.7- 5.3%
Total	851	100%	

Table 5: Site of Injury wise Distribution of Total Assault Cases

Site of Injury	Frequency	Percent(%)	95% CI
Head & neck	465	57.0%	53.7 -60.3%
Anterior trunk	225	26.4%	23.4 -29.4%
Back	85	10.0%	8.0 -12.0%
Upper & lower limb	56	6.6%	4.9 - 8.3%
Total	851	100%	

Table 6: Type of weapon used for Assault cases

Type of weapon	Frequency	Percent (%)	95% CI
Hard& blunt	445	52.3%	48.9 -55.7%
Body parts	261	30.7%	27.6 - 33.8%
Sharp	58	6.8%	5.1 - 8.5%
Pointed	58	6.8%	5.1 - 8.5%7
Other	29	3.4%	2.2 - 4.6%
Total	851	100%	



DISCUSSION

Present study showed male preponderance (73.7%) in assault cases as compared to females (26.3%). H. R. Thumbe et.al in their study found similar results in assault victims with male preponderance (85.4%). Majority of males in our study (44.7%) were in 15-34 years age group and 49.1% female victims were between 15-34 years. These results are in correspondence with the findings of Thumbe, et al who has also reported majority of assault cases in younger age group this fact results in higher DALYs as this is the most active age group. Out of total 1424 injuries inflicted over victim's body, maximum 460 (32.28%) injuries were lacerations followed by abrasions 285 (20%). Contusions comprised 212 (14.9%) injuries while swelling present on different body parts were 259 (12.9%). Incised injuries were 179 (12%) and stab injuries were 48 (3.3%). There were two (0.2%) burn injuries and one fire arm injury noted. Laceration was commonest injury in both males and females. This is consistent with the findings of Fothergill et al who also reported laceration as the commonest type of injury. In our study majority of injuries (82.6%) were simple in nature in males and 80.4% in females 12.9% injuries were found grievous in nature amongst males and 16.9% in females. In 4.6% cases opinions regarding severity of injury were reserved pending but in case of females, only 2.7% cases required to be labeled as pending opinion regarding severity of injury. [7,8] We have classified the nature of injuries present on body of assault victims as simple or grievous according to section 320 IPC. The females have suffered higher percentage of grievous injuries as compared to males, which is to be expected. In our study out of 851 assault cases maximum 445 (57.0%) injuries were inflicted over head & neck followed by 225 (26.4%) over anterior trunk 85 (10%) over back and 56 (6.6%) over upper and lower limbs. Similarly Manish Swarnkar et. al in their study found that body region head and face (51%) were predominantly affected in assault cases followed by trunk and upper limb. In present study hard and blunt weapon was used in maximum 445 cases (52.3%) assault cases, followed by body parts (Kick, Fist nails, teeth etc.) were used in 261 (30.3%) cases while with sharp weapon in 58 (6.8%) cases. Pointed weapons used in 58 (6.8%) cases and other miscellaneous weapon including firearm weapon used in 29 (3.4%) assault cases. Similar results were also observed by Manish Swarnkar et. al in their study.

CONCLUSION

The results of this study suggest that prevention of assault might include modification of violent behavior, to resolve conflict as early as possible and legislation and codes of practice related to firearm. Persons in the age group of 25-34 years were found to be more predisposed to violence. There is an urgent need to address the social and emotional needs of the adolescents and young adults.

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