

July - December 2023

Volume 32

Issue 2

PRINT ISSN: 2277-1867

ONLINE ISSN: 2277-8853



JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

Official Publication of Medicolegal Association of Maharashtra

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**MULTISPECIALITY, MULTIDISCIPLINARY, NATIONAL
PEER REVIEWED, OPEN ACCESS, MLAM (SOCIETY) JOURNAL
Indexed with Scopus (Elsevier) & Index Copernicus (Poland)**

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JOURNAL OF FORENSIC MEDICINE SCIENCE AND LAW

(Official Publication of Medicolegal Association of Maharashtra)

Email.id: mlameditor@gmail.com

PRINT ISSN:

2277-1867

ONLINE ISSN:

2277-8853

Original Research Article

Analysis of Injury Characteristics in Victims of Interpersonal Violence: Clinical Forensic Medicine Unit Perspective in a Tertiary Care Centre

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Article Info

Received on: 07.06.2023

Accepted on: 20.12.2023

Key words

Interpersonal Violence,
Covid-19,
Lockdown,
Domestic violence,
Clinical Forensic
Medicine.

Abstract

Introduction: World Health Organization (WHO) has classified violence under three headings, namely Self-directed, Interpersonal & Collective. Interpersonal violence (IPV) is defined as violence between individuals. **Material & methods:** In this retrospective observational record-based study, data was retrieved from the Trauma Registry of Clinical Forensic Medicine Unit (CFMU) of our institute over a period of 24 months from 01/01/2019 to 30/12/2020. This period of specifically chosen to find out the effect of Covid-19 pandemic-related restrictions on the incidence of IPV. **Results:** The maximum number of injured patients for both genders was in the age group of 21-40 years and 83(64.34%) out of 129 injured male patients were in this particular group. Out of a total of 31 female patients, 20 (64.51%) were in the age group of 21-40 years. **Conclusion:** There was no significant change in the number of male victims subjected to IPV with known assailants, as far as the lockdown is concerned. However, a reduction in the number of such female victims was noted.

1. Introduction

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either result in or have a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation is defined as violence.¹

World Health Organization (WHO) has classified violence under three headings, namely

Self-directed, Interpersonal & Collective. Self-directed violence is defined as what people inflict upon themselves, such as suicidal behaviour and self-mutilation. Whereas, collective violence refers to instrumental violence inflicted by larger groups such as nation-states, militia groups and terrorist organizations to achieve political, economic or social objectives.² Interpersonal violence (IPV) is defined as violence between individuals.

How to cite this article: Kumar DA, Ghormade P, Akhade S, Sarma B. Analysis of Injury Characteristics in Victims of Interpersonal Violence: Clinical Forensic Medicine Unit Perspective in a Tertiary Care Centre. J For Med Sci Law 2023;32(2):4-8.

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IPV is the violence that occurs between family members, intimate partners, friends, acquaintances and strangers, and includes child maltreatment, youth violence (including that associated with gangs), violence against women (for example, intimate partner violence and sexual violence) and elder abuse.² The emergency department (ED) is the first place to report such cases and WHO has thus recommended that the data should be collected from the ED in cases of IPV to study the morbidity or mortality.³

As per the National Crime Records Bureau India (2019) report, there has been a rise in cases of bodily hurt from 38.4% in 2017 to 40.7% in 2019. Whereas, in Chhattisgarh, a total of 18412 cases of bodily hurt were reported with a rate of 63.8 cases/lakh population. Out of those cases of bodily hurt, the victim was female in 1054 cases with a rate of 7.3/ lakh population.⁴ Forensic medicine experts working in the Clinical Forensic Medicine Units (CFMU) in the hospital examines injured patients and prepare medicolegal records. Medicolegal documentation involves gross details of the type, size and shape of the injury, condition of the patient and injury severity helps in the determination of the nature of the injury as well as the weapon associated with it. Hence, the present retrospective study was planned to find out the pattern of injuries in the victims of IPV with an analysis of socio-demographic factors in victims as well as assailants.

2. Methodology:

In this retrospective observational record-based study, data was retrieved from the Trauma Registry of CFMU of our institute over a period of 24 months from 01/01/2019 to 31/12/2020. We included this specific period to find out the effect of Covid-19 pandemic-related restrictions on the incidence of IPV. The study period had two parts; Pre Covid-19 period in India from Jan 2019 to Feb 2020. A phase of Covid-19 related lockdown down period during 1st Covid-19 wave from March 2020 to Dec.2020.

A detailed description of injuries and other demographic data was collected from the case record file of each patient from the medical records department in pre-validated case record proforma. All the medicolegal cases of IPV were examined by the doctors in CFMU and written informed consent of the patient was accorded at the time of the examination. All the medico-legal case file of the patient is

submitted to the medical record division of the institute as per standard protocol.

We screened a total of 216 patients of IPV irrespective of their gender brought for examination to the CFMU. Brought-dead cases of trauma, and patients of other traumatic injuries e.g., road traffic accidents, fall from height, and accidental and deliberate self-harm injuries were excluded. Non-consenting patients (children and adults) were also excluded.

3. Observations & Results:

A total of 216 cases of IPV were brought to our hospital during the 24 months-defined study period. Out of these 216 cases, medical records were either incomplete or not traceable in 56 (25.92 %) cases which brings our sample size to 160 cases of IPV. Amongst the 160 victims of IPV, 32 (20%) patients were hospitalized and received multidisciplinary treatment and no death was reported. The maximum number of patients were male 129 (81%), whereas female patients constituted only 31 cases. The maximum number of injured patients for both genders was in the age group of 21-40 years and 83(64.34%) out of 129 injured male patients were in this particular group. Out of a total of 31 female patients, 20(64.51%) were in the age group of 21-40 years. (Table 1)

Table 1: Age Group-Wise Distribution of Cases

Age Groups (Years)	Male	Female	Total
0-20	19	4	23
21- 40	83	20	103
41-60	20	7	27
>60	7	0	7
TOTAL	129	31	160

In the current study maximum incidents of IPV were encountered during the night hours. 68.75% (110) victims sustained injuries in outdoor attacks with the male preponderance of 94.5%. Whereas, females were the victims of indoor physical violence amounting to 52% of cases (Table 2). In the present study 84(52.5%) victims were assaulted by perpetrators known to them and in 76 cases attackers were strangers.

Regarding substance abuse, a history of alcohol consumption at the time of the assault was found in 44 (56.81%) assailants known to the victim. Females were the commonest victim (35 cases) of violent abuse when the perpetrator was known and addicted to alcohol. The majority (51.87%) of the victims belonged to the low socio-economic strata.

Table 2: Demographic details of the cases.

S.No.	Criterion	No. of cases
1.	Time of Incidence <ul style="list-style-type: none"> Day Night 	58 102
2.	Place of Incidence <ul style="list-style-type: none"> Outside the House Indoor (inside the house) 	110 50 (M: 24, F:26)
3.	Type of Assailant <ul style="list-style-type: none"> Known to the victim Unknown to the victim (Stranger) 	84 76
4.	Socioeconomic status <ul style="list-style-type: none"> Low income Middle Income 	83 77
5.	Substance Abuse <ul style="list-style-type: none"> Known Assailant (h/o consumption of Alcohol) 	44/84 (M: 25, F: 19)

*M- Male, F – Female

Blunt force impact causing laceration was the commonest injury encountered amounting to 43.12%, followed by contusion at 31.87% and abrasion at 27.5% (Table 3). The most commonly injured site was the head and neck, followed by the upper extremities and anterior aspect of the trunk (Table 4). Of 34 injured patients, 19 had incised wounds and in 15 cases stab wounds, indicative of the use of sharp pointed weapons (Table 3). In the 19 cases, the assailant was known to the victim.

Table 3: Type of Injuries in various cases

Injury Type	Number of cases (N)
Abrasion	44 (27.5%)
Contusion	51 (31.87%)
Laceration	69 (43.12%)
Incised	19 (11.87%)
Stab	15 (9.37%)
Fracture	5 (3.12%)
Chop	1 (0.62%)

Table 4: Site of injury

Injured Site	Number of cases (N)
Face	27 (16.87%)
Upper Limb	23 (14.37%)
Anterior Trunk	12 (7.5%)
Posterior Trunk	4 (2.5%)
Lower Limb	7 (4.37%)

We studied the incidence of IPV during the Covid-19 pandemic as the study period falls within the pandemic-related lockdowns announced by the Union and State government to contain the spread of the virus at different intervals. During this period

people suffered the loss of income, personal grief due to the loss of their dear ones along with mental agony due to strict restrictions. Hence, we categorised the cases into two groups. Group 1: Pre-Covid 19 before the announcement of the first national lockdown, Group 2: Actual period of lockdown as the COVID-19 Lock down period. A total of 97 cases (Males 74, females 23) of IPV have presented in the institute before the lockdown and 63 cases (males 55, females 8) during the lockdown phase. Whereas, male patients constituted the maximum number of injured IPV cases irrespective of lockdown. However, there was an actual fall in cases of IPV against the woman during the period of lockdown (n=8) (Table 5).

Table 5: Type of assailants involved in IPV on female

Group	(N)	Type of assailant		
		Known to Victim		Unknown to the victim
		Husband	Other Family member	
Pre Covid-19 Period	23	12	9	02
Covid 19 Lock down Period	08	4	4	00
Total	31	16	13	02

Among the total females who sustained injuries due to IPV (31 patients), intimate partner violence (16 cases) followed by physical abuse by other family members (13 cases) was common (table 5). There was a slightly increased use of sharp/ pointed objects as a weapon for causing physical injury during the lockdown period in 18 (25.39%) out of 97 cases as compared to pre lockdown period 16 (18.5%) out of 63 cases.

4. Discussion:

We excluded 56 cases out of 216 cases of IPV due to incomplete documentation or missing records. Miscoding leading to incomplete data in cases of IPV is not infrequent.⁵ Hence, the proper policy framework is a must in documentation and record keeping in medicolegal cases. In our study, 81% of patients were male as compared to females (19%). Concurrent findings were noted by Wright J et al. and Hazra et al.³ Maximum number of injured patients for both genders was in the age group of 21 to 40 years (64.34% of male and 64.51% of female patients). Comparable findings were noted in previous studies.^{3,6,7} Gul H et al.⁸ in their study noted that mean \pm S.D. the age of women who were physically abused was 38.7 \pm 9 years. Sharma R et al.⁹ found a significant correlation between the violence-related behaviour in adolescents and male gender, lower age,

number of close friends, copying role models who smoke or drink and those who reside in resettlement colonies, slums and villages. We found that the majority (51.87%) of the victims belonged to the low socio-economic strata.

We noted the maximum incidence of IPV during night hours similar to the findings of the previous studies by Tingne et al.⁷ and Hazra et al.³ Our, 68.75% of victims sustained injuries in outdoor attacks with a male preponderance of 94.5%. Whereas, females were the victims of indoor physical violence amounting to 52% of total cases. Consistent with the findings noted by Tingne et al.⁷ 52.5 % of patients were assaulted by known perpetrators; similar to the earlier studies.^{3,7} Males are breadwinners for the family and are mostly engaged in outdoor activities in this part of the world, hence most vulnerable to interpersonal conflicts as documented in the previously reported study by Sharma R et al.⁹

We found that 51.61% (16) female patients were victims of intimate partner (husband) violence and in 13 cases other family members were the perpetrator. Surprisingly only in 2 cases assailants were not known to the victim. Hofner et al.¹⁰ described that 60 % of their female patients were victims of IPV in indoor settings. Baena MD et al. noted that 42.7% of women were assaulted by a partner, 41.1 % by an unknown person and by both in 16.2 % of cases.¹¹ However, Gul H et al.⁸ found intimate partner physical violence only in 19 % of their cases. Females are more likely to be attacked by a single person known to them at home.⁵

During the Covid-19 lockdown period, there was an actual fall in the incidence of IPV against females from 23.71% before the lockdown to 12.6% after the enforcement of strict lockdown. However, the pattern of intimate partner violence remains unchanged. Alcoholism at the time of the assault was found in 44 (56.81%) assailants known to the victim and females were the commonest victim (35 cases) of violent physical and verbal abuse after indulging in alcohol. The integrative review by Carvalho AP et al.¹³ included 19 studies and showed that alcohol consumption is the predictor of physical violence in the perpetrator and for the adolescent victim of the violence. Lim KHA et al.¹² found that majority of the victims of IPV presented to the emergency department had a history of alcohol intake. Blunt force or impact injuries (lacerations at 43.12%,

contusion at 31.87% and abrasion at 27.5%) were the commonest in the patients of IPV in the current study. In most of the cases, a combination of injuries was noted. The most commonly injured site was the head and neck. Of 34 injured patients, 19 had incised wounds and in 15 cases stab wounds, indicative of the use of sharp pointed weapons.

Concurrent findings were noted by Hazra et al.³ showing laceration to be the most commonly noted injury. Subba et al.⁶ and Tingne et al.⁷ showing the head and neck to be the most commonly affected area. Whereas, Lim KHA et al.¹² found that single-punch head injuries were commonest amongst the non-indigenous male victims of IPV. We did not have a single case of IPV using firearms, this is contrary to the finding of Hsu HT et al. they found increased use of firearms by adolescents in physical violence.¹⁴ We noticed a relative fall in incidence reporting of IPV from 97 cases to 63 cases before the implementation of the lockdown and after the state-announced strict Covid-19 lockdown period, respectively. Interestingly violence by the known perpetrators using domestic objects like kitchen knives, screwdrivers, forks, scissors etc. had increased to 25.39% during the lockdown phase from 18.5% before the lockdown. Levandowski ML et al.¹⁵ reported a 54 % drop in reporting of cases of violence against children and adolescents in the year 2020 during the Covid-19 Pandemic. They concluded that the under-reporting may be due to social distancing.

We disagree with the authors about the possibility of under-reporting of IPV during the lockdown in the Indian context. Because most of the victims of IPV were physically injured in outdoor violence. India was one of the countries in the world which had strictly implemented a Covid-19 lockdown along with social distancing norms. There has been a severe psychological impact on the masses due to the mortality and morbidity caused by COVID 19 disease.¹⁶

Hence, the actual fall in cases of IPV during the lockdown period might be due to the restricted and lesser mobility of people outside their homes and legally binding social distancing norms, which led to lesser exposure to situations of IPV.

5. Conclusions:

Male young adults, addicted to alcohol, and engaged in outdoor work are the most commonly involved in IPV. Females are victims of intimate partner violence by husbands and physical abuse by

other family members at home and they fear seeking any help due to social stigma and apprehension of further violence. We found that there was an actual fall in the incidence of IPV during the Covid-19 pandemic lockdowns.

Ethical Clearance: IEC approval is taken from the Institutional Ethical committee.

Contributor ship of Author: All authors equally contributed.

Conflict of interest: None to declare.

Source of funding: None to declare.

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