

Facial Fractures Caused by Intimate Partner Violence Presenting to Emergency Departments

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INTRODUCTION

- Intimate partner violence (IPV) results in thousands of Emergency Department (ED) visits each year, primarily among women.
- In the United States, 2 to 4 million women are assaulted by their intimate partners annually, making domestic violence the most common cause of non-fatal injury in women.³
- The head, neck, and face are the most frequently injured body parts, seen in 50-80% of IPV cases.¹
- Blunt trauma due to a fist or other object is the most commonly reported mechanism and often results in facial injuries, including facial fracture.³
- Literature indicates that there are differences in patterns of IPV across gender, age, and race.^{2,4}
- The goal of this study is to better characterize epidemiologic trends of IPV specifically for facial fractures to help providers recognize these injuries and identify populations disproportionately affected.
- Recognizing these patterns is imperative to prevention because victims of IPV often present to the ED multiple times for recurrent injuries and injuries related to IPV are underreported.

METHODS

- Retrospective analysis was performed using the National Electronic Injury Surveillance System-All Injury Program (NEISS-AIP).
- NEISS-AIP was queried for ED visits for facial fractures from the years 2016 to 2020.
- Patients were selected for IPV defined as assault by a spouse or partner.
- Statistical analysis was performed using SPSS and Microsoft Excel to compare frequencies of age, race, precipitating cause of injury, location of injury, and disposition with gender.

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Cause of Injury

	Male	Female
Motor vehicle	0 (0.0%)	9 (1.1%)
Struck by blunt object	93 (92.1%)	793 (97.3%)
Cut or pierced	4 (3.9%)	1 (0.1%)
Bite	0 (0.0%)	4 (0.5%)
Firearm gunshot	4 (3.9%)	6 (0.7%)
P-value	<0.001	

Race/Ethnicity

White	25 (24.5%)	234 (28.7%)
Black	45 (44.1%)	226 (27.7%)
Hispanic	7 (6.9%)	73 (9.0%)
Asian	1 (1.0%)	3 (0.4%)
Native American	4 (3.9%)	4 (0.5%)
Other/Unknown	20(19.6%)	275 (33.7%)
P-value	<0.001	

Disposition

Treated and released	81 (79.4%)	662 (81.2%)
Transferred	4 (3.9%)	22 (2.7%)
Hospitalized	12 (11.8%)	104 (12.8%)
Observation	3 (2.9%)	18 (2.2%)
AMA/LWBS	2 (2.0%)	9 (1.1%)
P-value	0.852	

Locale Where Injured

Home	45 (44.1%)	337 (41.3%)
Street	2 (2.0%)	29 (3.6%)
Public	4 (3.9%)	38 (4.7%)
School/Sports	0 (0.0%)	3 (0.3%)
P-value	0.931	

RESULTS

- 916 patients were identified, of which 814 (89%) were female and 102 (11%) were male.
- Females regardless of age, race/ethnicity, or cause of injury were significantly more likely to endure facial fractures from IPV (p-value <0.001).
- There was no significant association between gender and disposition or locale where injured.
- Female victims on average were significantly younger than male victims (32.9 vs 38.4, p<0.001).
- While the most common mechanism of injury for both men and women is being struck by a blunt object, male victims are more likely to be cut with a sharp object or shot with a firearm than women.
- Women are more likely to be struck by a motor vehicle or bitten than men.

DISCUSSION

- Among victims of IPV sustaining facial fracture and presenting to the ED between 2016 and 2020, gender was significantly associated with age, cause of injury, and race/ethnicity.
- Our study suggests that females are more likely than males to present to the ED with facial fracture caused by IPV and at a significantly younger age.
- Comprehensive screening for IPV must be implemented in emergency departments, especially in the setting of facial trauma in women.
- Across both genders, most victims were injured at home, and were treated and released from the ED, potentially suggesting a similar level of injury severity between genders.²
- As patients of IPV are likely to present to the ER repeatedly due to abuse, it is important to ensure early and effective identification.
- One limitation to this study is that the type of facial fracture could not be determined. Further research is essential to investigate the various types of facial fractures occurring in cases of IPV and whether specific fracture patterns are associated with demographic or situational factors.