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Title: Characteristics and Three-Month Outcomes of Individuals Presenting to the Emergency Department after Physical Assault.

Study objectives: More than 1.6 million individuals present to US EDs each year for care after physical assault. However, little is known about posttraumatic outcomes of this population. We assessed the incidence of adverse posttraumatic neuropsychiatric sequelae (APNS) in a prospective longitudinal sample of individuals presenting to the ED after physical assault.

Methods: ED patients aged 18-75 who presented to one of 28 ED sites after physical assault were eligible for enrollment if they had no evidence of solid organ injury > grade 1, no significant hemorrhage, no indication for chest tube placement or operation under general anesthesia, and were unlikely to be admitted for more than 72 hours. Baseline assessments included sociodemographic characteristics, maximal AIS score, and characteristics of the assault. Three-month outcome assessments included assessment of substantial posttraumatic stress (PTS, PCL-5 \geq 38), pain (numeric pain scale score \geq 4), and depressive (PROMIS-8b depression \geq 60) symptoms. Associations between patient characteristics and APNS were evaluated using logistic regression.

Results: A total of 271 patients were enrolled in the study following physical assault. The mean age was 33.5 (SD 11.7), and 48% were female. Most participants identified as non-Hispanic black (64%), non-Hispanic white (21%), or Hispanic (11%). The majority n= 206 (76%) reported being attacked by another person, 46 (17%) reported starting or intentionally joining an altercation, and 19 (7%) reported another assault mechanism. Average maximal AIS score was 1.3 (range 1-3), 99% were discharged to home after evaluation. Three month follow-up results were available for 207/271 patients (76%). Substantial PTS symptoms 3 months after assault were present in 63/199 (32%), substantial pain was present in 107/206 (52%), and substantial depressive symptoms were present in 70/207 (34%). After controlling for age and sex, patients who were attacked had more severe PTS symptoms ($\beta=0.18$, $t=2.40$, $p=0.018$) and depressive symptoms ($\beta=0.18$, $t=2.45$, $p=0.015$) than those who reported intentionally joining an altercation, but not more severe pain symptoms ($\beta=0.12$, $t=1.67$, $p = 0.097$). In 60% of cases (n = 163/271) the assailant was unknown to the patient. After controlling for age and sex, individuals in an altercation with an unknown assailant did not report more severe PTS ($\beta=0.005$, $t=0.06$, $p=0.949$), pain ($\beta=-0.11$, $t=-1.47$, $p=0.142$), or depressive symptoms ($\beta=-0.08$, $t= -1.05$, $p = 0.292$) than individuals in an altercation with a known assailant.

Conclusion: Among patients treated in the ED after physical assault, even when injury severity is low APNS are common. Secondary preventive interventions are needed to reduce the incidence of PTS, pain, and depressive symptoms after physical assault.

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