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Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

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Permalink

<https://escholarship.org/uc/item/2n11r7rk>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 9(3)

ISSN

1936-900X

Authors

Moreno-Walton, Lisa
Katz, Valerie
Shah, Amish
[et al.](#)

Publication Date

2008

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Peer reviewed

Social Factors That Predict Penetrating Trauma: Has Anything Changed in the Past Twenty Years?

Lisa Moreno-Walton, MD

Lincoln Medical and Mental Health Center; Mt. Sinai Medical Center

Valerie Katz, MD

Amish Shah, MD

Jayne Lieb, MD

Objective: Establish a database of social factors that typify the penetrating trauma patient in the South Bronx. Evaluate each factor as a risk to penetrating trauma. Compare risk factors to those identified in the literature.

Method: A review of a consecutive series of patients admitted to the trauma service over a six-month period at a Level One inner city academic medical center. Records were reviewed for type of injury, age, sex, race, highest level of education, history of substance use, current intoxication, and previous history of trauma. Percentages were calculated for each risk factor and relative risk (RR) and odds ratio were determined by comparing our sample to the Bronx County population.

Results: Of 204 patients, 122 had penetrating trauma. 89.34% were male and 10.66% female (Bronx population 46.79% and 53.21%). Males had RR 9.53, females 0.10 (P=0). Age peaked at 15-19 years (25.41%, Bronx 7.47%), 20-24 years (30.33%, Bronx 14.39%), and 25-34 years (23.77%, Bronx 14.76%). Respective RR 4.22, 2.59 and 1.80(P=0). Patients were 59.84% Hispanic and 40.16% non-Hispanic (Bronx 50.97%, 49.03%), (P=0.0501, RR 1.43). 31.97% had some high school and 24.59% graduated, consistent with Bronx population > 25 years of age. 59.84% gave a history of alcohol use, 33.61% THC, 9.02% heroin, 9.84% cocaine, 4.10% methadone. 32.79% were positive for alcohol concurrent to the trauma, 6.56% THC, 2.46% heroin, 8.20% cocaine, 0.82% each benzos and methadone, 36.89% tested negative, and 22.13% were not tested. All patients with previous trauma were males.

Conclusions: Male sex, Hispanic race, ages between 15-34, and education of high school or less correlate with penetrating trauma. History of alcohol but not drugs predispose to penetrating trauma. Patients were more likely to be sober than intoxicated. 23.78% had a history of previous trauma. Findings are consistent with the literature, suggesting that time and geography don't alter trauma risk factors, although a lower mean age at presentation suggests a trend towards violence at a younger age.