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Regional and Socioeconomic Factors Impacting Pediatric Victims of Cranial Gunshot Wounds: Analysis of the Kids' Inpatient Database (KID)

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Introduction

Injury by firearms among the pediatric population is a growing concern in the United States. This paper investigates demographic factors associated with pediatric cranial gunshot wounds (GSW).

Methods

A query of the KID databases from 1997-2019 was run for cranial GSW and craniotomy ICD-9 and ICD-10 codes. ANOVA and chi-squared tests were performed to analyze demographics and outcomes by injury type.

Results

Our query resulted in 2990 cranial GSW patients; 86.1% were male. Mean age was 16.48 years; accidental victims were the youngest and intentional the oldest (14.88±5.2, 17.2±2.3, $p< 0.001$). Blacks, Hispanics, and Asian-Pacific-Islanders (minorities) were most commonly victims of assault; Whites were most commonly victims of intentional GSW ($p< 0.001$). Victims mostly had Medicaid except for intentional victims who were more likely to have private insurance ($p< 0.001$). Assault was the predominant injury type in all regions, especially in the West (33.7%). The South had the most accidental (51.9%) and intentional (44.6%) injuries. In 1997 and 2019 the predominant GSW type was accidental; in all other years assault predominated. Accidental victims were most likely to undergo craniotomy and intentional were least likely ($p< 0.001$). Inpatient mortality was 46.4% with intentional victims having the highest rate (68.6%) then undetermined (60.3%) and law enforcement-related (57.7%).

Conclusion

Victims of assault were more likely to be minorities and reside in densely populated regions. Understanding socioeconomic factors is crucial for developing targeted prevention strategies to mitigate morbidity and mortality from pediatric gun violence.