



Health Disparities in Pediatric Facial Trauma

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INTRODUCTION

- Pediatric trauma: >8 million ED visits and hospital admissions in the US/year
- Pediatric craniofacial fractures: Only 5 - 15 % of all fractures and only 4.6% of pediatric craniofacial trauma
- Require unique consideration due to the impact on growth and development
- Little is known on how social determinants of health affect incidence and management

Neighborhood factors associated with health outcomes:

Social Vulnerability Index (SVI):
Risk of negative effects on human health caused by external stressors, includes socioeconomic (SE) status, household characteristics, racial/ethnic minority status, housing/transportation type

OBJECTIVE

Investigate the contribution social determinants of health have on the management of various pediatric facial fracture subtypes.

METHODS

- A retrospective review was conducted at a single institution (2005-2021)
- Inclusion criteria:

Pediatric Patients
Age 0-18

ED Visit with
Facial Fracture(s)

Pennsylvania Resident

RESULTS

Table 1. Presenting demographics

		White race		Black race		Other race		p- value
		No.	%	No.	%	No.	%	
Total patients		2178		389		103		--
Sex	Male	1483	68.1%	261	67.1%	72	71.3%	0.760
	Female	695	31.9%	128	32.9%	29	28.7%	--
Fracture type	Mandible	311	14.3%	88	22.7%	20	19.4%	0.000
	Maxilla	392	18.0%	77	19.9%	16	15.5%	0.522
	Orbit	569	26.1%	113	29.2%	31	30.1%	0.332
	Skull	189	8.68%	30	7.75%	12	11.7%	0.457
	Nasal	1390	63.8%	205	53.0%	59	57.3%	0.000
# of fracture types	1	1717	78.8%	301	77.8%	78	75.7%	0.700
	>1	461	21.2%	86	22.2%	25	24.3%	--

Table 2. Intervention and follow-up

		White race		Black race		Other race		p- value
		No.	%	No.	%	No.	%	
Total patients		2178		389		103		--
Insurance	Insured							
	Uninsured							
Intervention	Imaging	1293	59.5%	303	78.5%	63	61.2%	0.000
	Surgery	1123	51.6%	129	33.4%	49	47.6%	0.000
Referral to further specialty care								
Lost to follow-up		732	33.6%	168	43.5%	42	40.8%	0.001

Figure 1. Odds ratios



RESULTS

Male sex: associated with more facial fractures

Black patients: associated with more imaging than White or other races/ethnicities

Black patients: associated with less surgery than White or other races/ethnicities

White patients: lower likelihood of loss to follow up compared to other races/ethnicities

CONCLUSION

•In pediatric patients with craniofacial fractures, race/ethnicity and SE status can influence treatment:

Imaging

Surgery

Follow-Up

•Identifying external systemic barriers that impact emergency care management in vulnerable patients is necessary to overcome healthcare gaps and optimize clinical outcomes.

Factors that need to be targeted:

- Implicit-bias
- Education
- Healthcare Access

CONTACT

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