



Violence-Related Pediatric Hand Trauma: Epidemiology, Injury Patterns, and Risk Factors

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BACKGROUND

- Violent hand trauma has devastating implications in pediatric patients.
- The epidemiology and injury patterns of pediatric hand trauma are not well described.
- We characterized injuries among pediatric hand trauma patients to identify risks associated with violent hand injury.

METHODS

- 1311 patients had hand trauma from 2010-2020.
- Retrospective review was conducted.
- Binomial regression used for relative risks.

RESULTS

Violence Type	Total (n=124)
Accidental	18 (14.5%)
Self, GSW	4 (3.2%)
Self, Knife	11 (8.9%)
GSW	3 (2.4%)
Assault	32 (25.8%)
Hit by object	4 (3.2%)
By person	20 (16.1%)
GSW	8 (6.5%)
Punching people	28 (22.6%)
Punching objects	46 (37.1%)

Table 1. Prevalence of violent mechanisms of injury.

RESULTS

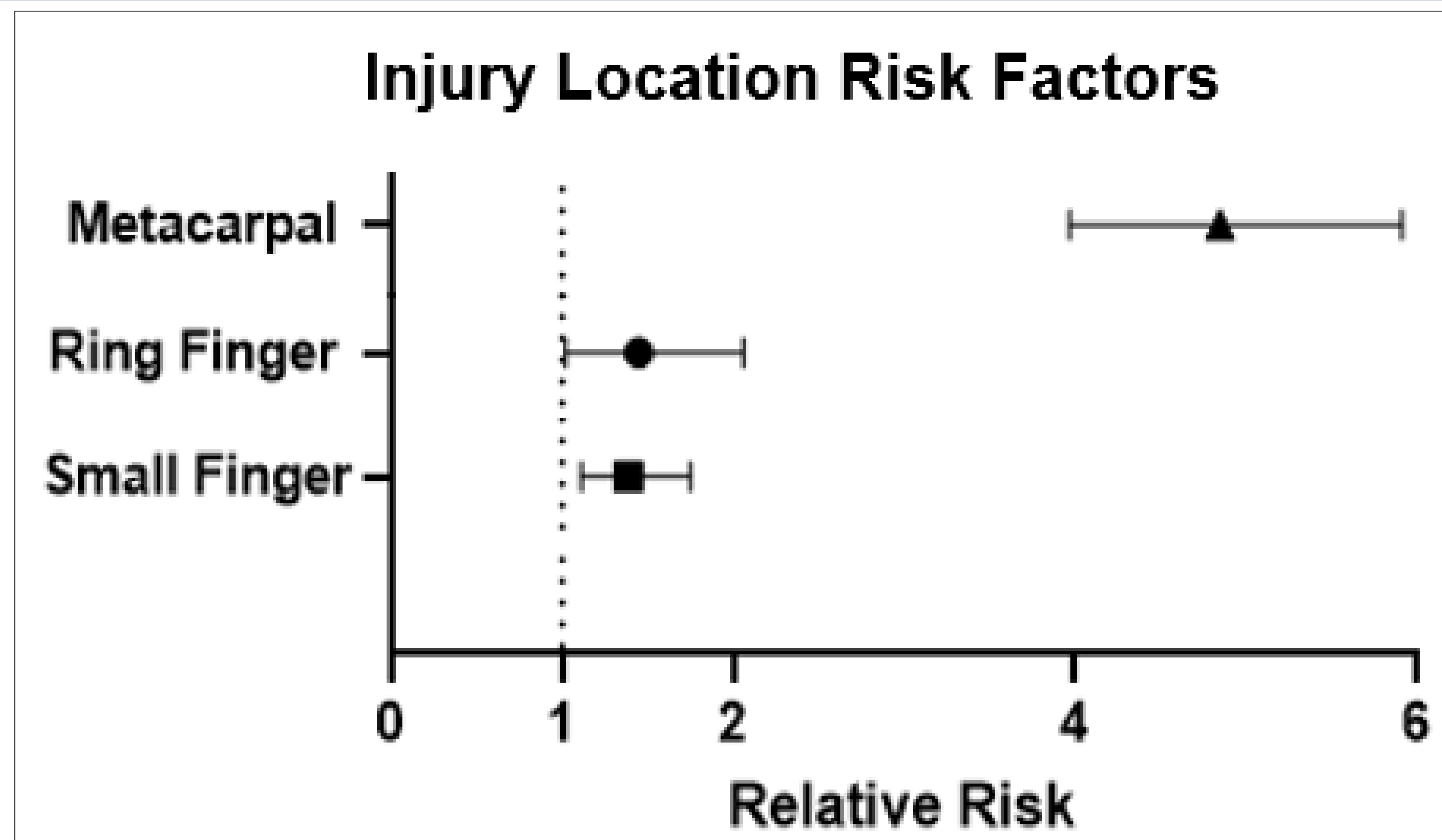


Figure 1. Injury location risk factors for violent hand trauma.

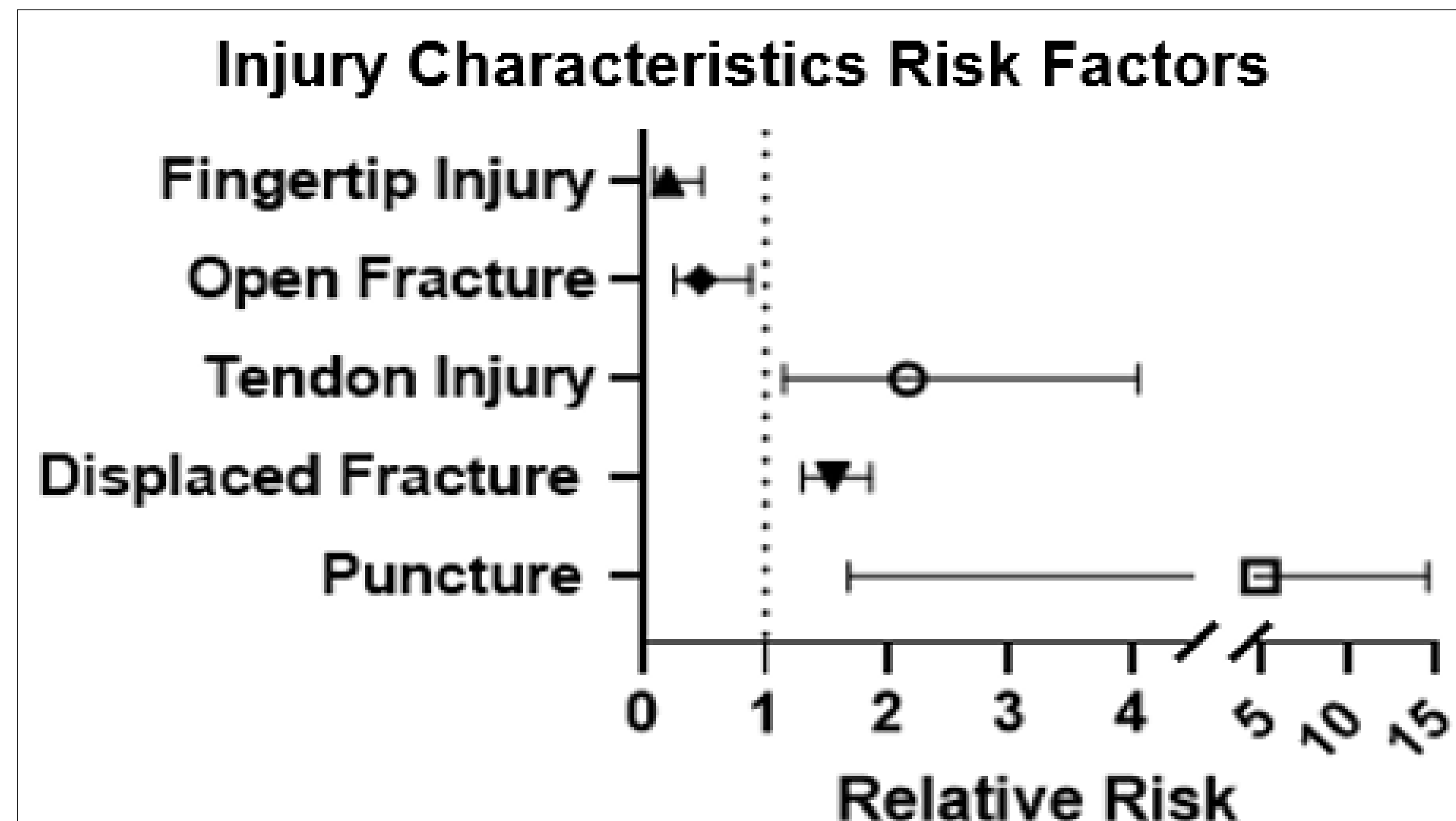


Figure 2. Injury-related risk factors for violent hand trauma.

RESULTS

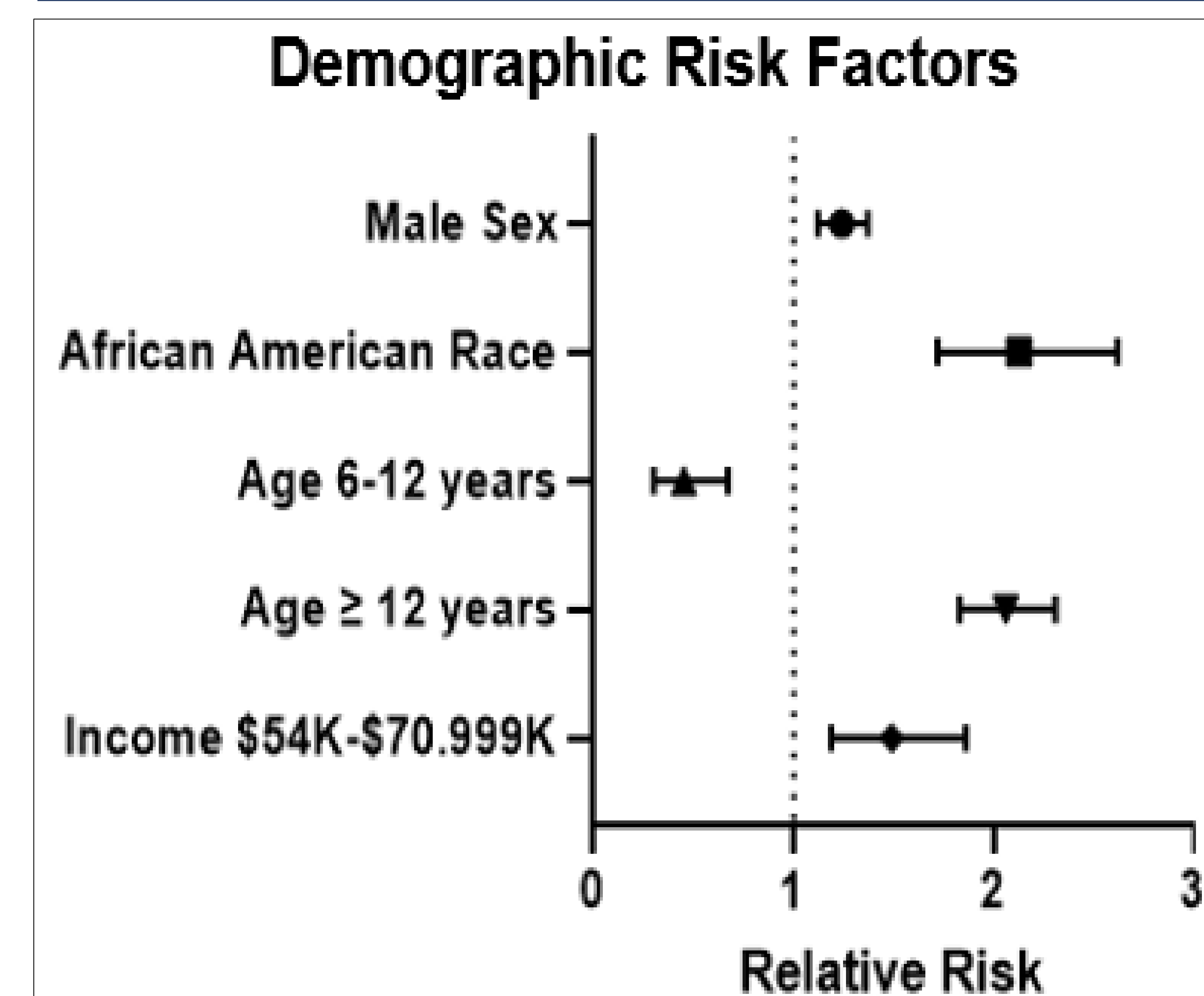


Figure 3. Demographic risk factors for violent hand trauma.

CONCLUSIONS

- This represents one of the largest reported cohorts in pediatric hand trauma to date.
- Adolescent African American males were at highest risk for violent hand trauma.
- Lower-income households were at higher risk for violent hand injury.
- Injuries to the ring and small finger, metacarpal injuries, and complex fractures were more likely to occur by violent mechanism.