Methods/approach 958 ethnically diverse adolescents from multiple schools participated (57% female, mean age = 16.1). The CADRI measured past-year psychological abuse perpetration. Gender, ethnicity, family composition, and parental education served as time-invariant variables to predict initial abuse and growth rate. Hostility (SCL-90) at each wave served as time-varying variable.

Results Unconditional linear model fit was acceptable, x²(df = 5) = 11.47, p < 0.05, RMSEA = 0.04, CFI = 0.99. The mean of intercept (est = 3.23) was positive and significant, indicating that average of psychological abuse at wave2 was significantly larger than zero. The mean slope (est = -0.11) was negative and significant, indicating that perpetration of psychological abuse linearly decreases over time on average. In addition, the significant variance of the intercept (est = 4.69) and slope (est = 0.45) indicated inter-individual variability around this mean group and in growth over time. Conditional growth model including time-invariant and time-varying variables also evidenced an acceptable fit, x²(df = 29) = 54.19, p < 0.05, RMSEA = 0.03, CFI = 0.98. Adolescents with more hostility reported significantly more psychological abuse perpetration than would be expected given their trajectory alone. Female and African American adolescents reported more psychological abuse relative to their respective counterparts. None of the lifetime-invariant variables significantly predicted growth rate.

Conclusions Overall, the developmental trend of psychological abuse perpetration decreased over time. Gender and ethnicity were associated with initial psychological abuse but not significantly associated with developmental trend. Hostility at each wave was associated with time-specific increases in psychological abuse perpetration.

Significance and contributions Hostility can play a role as risk factor, actively delaying the normative decrease of psychological abuse perpetration over adolescence.

MECHANISMS AND CONTRIBUTING FACTORS OF SIDE-BY-SIDE VEHICLE CRASHES

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Statement of purpose Side-by-sides (SxSs), which includes utility task vehicles (UTVs) and recreational off-highway vehicles (ROVs), have become increasingly popular over the past few years. The study objective was to evaluate SxS crashes with respect to demographics, crash mechanisms, and associated risk factors.

Methods/approach A retrospective chart review and analysis was performed of SxS vehicle trauma victims at the University of Iowa from 2008–2013.

Results Thirty-three patients with SxS-related injuries were identified. Two-thirds were males. Over half (55%) were children <16 years of age, and three-quarters were ≤25 years old. About one-third of the crashes occurred on roadways. The crash mechanism was a rollover in two-thirds of the cases. Almost half of the victims were struck and/or pinned by the vehicle. Those in rollovers were significantly more likely to be struck and/or pinned by the vehicle than those ejected or involved in a collision (p = 0.02). There were nearly as many passenger victims (44%) as drivers (56%), and a trend showed children more likely to be passengers (p = 0.09). Still, nearly 40% of the child victims were drivers of the vehicle. No victims were wearing a helmet. Four-fifths of the victims were unrestrained. All six of the victims whose primary mechanism of injury was vehicle ejection were children <16 years and unrestrained. One-half of adult victims were obese with a BMI ≥30; none of the child victims were obese. Of the 70% of adults tested for alcohol, two-thirds were positive.

Conclusions Although most current SxS models have roll bars, lack of safety belt use is reducing their benefit. Youth suffer a high percentage of the SxS injuries, often while driving.

Significance and contributions No previous reports specifically address the epidemiology of SxS crashes. Study results support prohibiting children from operating SxSs. Certain adult populations appear at risk and may require targeted interventions.

FIREARM-RELATED INJURIES IN HOSPITAL SETTINGS AND IN-HOSPITAL MORTALITY

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Statement of purpose The proportion of injuries involving firearms varies from <1% of unintentional nonfatal injuries to 51% of suicides. Differences between firearm injuries treated in emergency department (ED) and inpatient settings are not well characterised. To ascertain how mortality varies by treatment setting and injury intent, we examined associations between patient characteristics, intent, and risk of death in ED and inpatient settings in a large sample of patients with firearm injuries.

Methods/approach We identified all firearm injuries in the National Trauma Data Bank, 2009–2012. Analyses were stratified by age group (0–17/18–64/65–89) and treatment setting (ED/inpatient). The 6-hour (ED) and 30-day (inpatient) discharge survival by injury intent were estimated using the Kaplan-Meier Method. Clustered multivariate Poisson regression models were used to calculate risk ratios (RR) of mortality in each setting.

Results Records of 67,212 firearm injuries were analysed. ED patients were demographically similar to inpatients. Mortality rates in the ED were higher than in the inpatient setting across intent categories and age groups. Intent was strongly associated with mortality, with evidence of race modifying this association. In the ED setting, risk of mortality was higher with self-inflicted injuries (RR = 6.65; 95% confidence interval (CI): 4.52, 9.77), assault injuries (RR = 2.01; 95% CI: 1.34, 3.01), and undetermined intent injuries (RR = 4.45; 95% CI: 2.06, 9.61) compared to unintentional injuries. In the inpatient setting, risk of mortality was higher with self-inflicted injuries (RR = 8.28; 95% CI: 7.10, 9.67), assault injuries (RR = 2.02; 95% CI: 1.73, 2.36), and undetermined intent injuries (RR = 3.04; 95% CI: 2.42, 3.08) compared to unintentional injuries.

Conclusions Patterns of firearm injury intent differ between ED and inpatient settings. The risk of death in ED and inpatient settings is notably higher for intentional than unintentional injuries.

Significance and contributions Accounting for injury intent identifies subgroups at particular risk of firearm mortality in different treatment settings.