Mortality and hospitalisation data underscore the impact that violence has on the Brazilian population. A national injury surveillance system in hospital emergency departments (EDs) was implemented by the Brazilian Ministry of Health in 2006.

**Objective** To describe the characteristics of violence-related injury visits at EDs in Brazil and compares circumstances for assault-related and self-inflicted cases.

**Methods** This cross-sectional study describes 4835 cases seen during September 2006 in 62 EDs, representing all 26 states and the Federal District. To assess potential associations between the type of violence and multiple factors a logistic regression was used.

**Results** Males were 72.8% overall and persons aged 20–29 were 35.4%. Alcohol use was reported or suspected in 42.7% overall, mainly among males. Assault victims comprised 91.4% of the cases and self-inflicted injuries were 8.6%. Three-fourths of the assault victims were male; over half of the self-inflicted injury victims were female. The leading mechanism for assaults was physical force/blunt objects (46.2%); poisoning was predominant among self-inflicted injuries (71.4%). Younger females were significantly more likely to be victims of self-inflicted injuries than younger males; younger males were more likely to be victims of assault, especially in cases where alcohol use was reported. Self-inflicted injuries were significantly more likely to occur in residences; assaults were more likely to occur away from home.

**Conclusions** These results improve our understanding of the characteristics of violence-related injuries in Brazil.