

Presenting Author Name

Shamsia Sobhan

Phonetic spelling of your (full) name

Shamsia Sobhan

Presenting Author Category

Non-Trainee

Supervisor Name

Jonathan McGavock

Research Category

Community Health / Policy

Abstract Title

Evaluating the Impact of Canada's 2010 Youth-Model ATV Safety Standard on Pediatric Injuries and ATV Market Trends: A Quasi-Experimental Study

Authors

Name	Role	Profession
Shamsia Sobhan	Presenting Author	Graduate
Mattea Heck	Co Author	Graduate
Robert Balshaw	Co Author	Assistant Professor
Jonathan McGavock	Co Author	Full Professor

Background

All-terrain vehicles (ATVs) pose a significant injury risk among children and adolescents. In 2010, Canadian ATV industry stakeholders voluntarily adopted a modified version of American National Standards Institute/Specialty Vehicle Institute of America 2007 Youth-Model ATV Standard, introducing age-specific vehicle classifications, speed restrictions, parental controls, and other safety measures.

Objective

To evaluate the impact of the standard on ATV-related injuries among Canadian children and adolescents, as well as ATV and potentially safer utility terrain vehicle (UTV) sales.

Methods

We conducted a population-based retrospective cohort study using the Canadian Institute for Health Information Discharge Abstract Database (2002–2019). ATV-related hospitalizations were identified using ICD-10 codes and classified as children (<16 years), adolescents (16–20 years), or adults (>21 years). A difference-in-differences analysis compared age-specific injury rates before and after implementation of the 2010 youth ATV standard, using adults as the comparison group. Annual hospitalization rates per 100,000 population were calculated using Statistics Canada data. Poisson regression assessed injury rate changes, while interrupted time-series analysis evaluated changes in ATV and UTV sales following

implementation.

Results

The cohort included 32,353 ATV-related hospitalizations: 5,469 children, 4,454 adolescents, and 22,430 adults. Crude annual incidence rates before and after the standard were 8 vs 6 for children and 18 vs 13 for adolescents. Among children and adolescents, ATV-related hospitalization rates decreased by 26% (IRR: 0.74; 95% CI: 0.71–0.79) and 27% (IRR: 0.73; 95% CI: 0.69–0.79) respectively. ATV sales overall declined by 3.22 units/year, with an immediate decrease of 27.01 units following implementation. UTV sales showed a marginal increase (0.83 units/year), with no significant immediate post-intervention change.

Conclusion

The 2010 Canadian Youth-Model ATV Standard was associated with reduced ATV-related hospitalizations among children and adolescents and declining ATV sales. These findings support continued implementation and strengthening of age-appropriate ATV safety standards and injury-prevention strategies for children and youth.