



Use of Trauma Registry Data to Examine Agricultural Injuries in Nebraska Related to All-Terrain Vehicles, 2012-2014

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BACKGROUND: Half of work-related fatal injuries in Nebraska's agricultural industry are due to transportation incidents. All-terrain vehicles (ATVs) are a useful mode of transportation on Nebraska farms, yet there are known safety hazards associated with their use. To better understand the burden of injuries involving ATVs in Nebraska, we examined trauma registry data and described agricultural ATV-related traumatic injuries among persons admitted to designated trauma centers.

METHODS: Persons with traumatic injuries that were admitted, transferred, or dead on arrival to designated trauma centers during 2012-2014 were extracted from the Nebraska Trauma Registry database. Injuries were defined as 'probable agricultural injuries' if the external cause-of-injury code (E-code) indicated the injury site occurred on

a farm or if the accident was caused by agricultural machinery. ATV-related injuries were defined as injuries where the E-code was E821.0, E821.1, E821.8, or E821.9, or if the injury description matched any ATV-related keywords. Agricultural injuries involving ATVs were analyzed and frequencies were calculated for demographic characteristics, injury outcomes, and work-relatedness.

RESULTS: Out of 1,335 probable agriculture-related traumatic injuries requiring medical care during the three years, ATVs were the most frequent cause of injury (18.1%; n=242). ATV-related traumatic injuries occurred predominantly among males and the persons aged 10-15 (15.7%), 16-24 (15.3%), and 55-64 years (14.9%). These injuries were more common in summer months, between 4pm-8pm, and on Fridays and Saturdays. Approximately half of ATV injuries were classified as minor severity (48.8%), while 35.1% of injuries were moderate severity and 9.5% were severe. The mean interval between the time of injury and the time of emergency department arrival was 3.2 hours. Only 16.9% of cases were identified as work-related, however manual review of injury descriptions indicated the true proportion of injuries resulting from agricultural work activities is likely higher.

CONCLUSIONS: Trauma registry data provides a unique data source for identifying and describing ATV-related traumatic injuries. ATV injuries due to agricultural work activities are likely underestimated. To reduce the burden of agricultural injuries in Nebraska, additional efforts aimed at preventing ATV-related injuries are needed. Incorporating ATV safety training and education should focus on older agricultural workers in addition to younger ones.

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