



Surveillance Highlights

Serious self-harm requiring intensive care unit admission: Understanding near-fatal suicide attempts

Daphne J. Korczak MD^{1,2}, Robin Skinner MSP³, Raelyne Dopko PhD³

¹Department of Psychiatry, Hospital for Sick Children, Toronto, Ontario; ²Department of Psychiatry, University of Toronto, Toronto, Ontario; ³Public Health Agency of Canada, Ottawa, Ontario

Correspondence: Daphne Korczak, Hospital for Sick Children, 1st floor Burton Wing, 555 University Ave, Toronto, Ontario M5G 1X8. Telephone 416-813-7531, fax 416-813-5326, e-mail daphne.korczak@sickkids.ca

CASE EXAMPLES

Case 1: A 15-year-old male was admitted to a paediatric intensive care unit (ICU) following a suicide attempt by hanging. There was no history of previous suicide attempts, no evidence of intoxication and no pre-existing psychiatric or medical illness. The end of a romantic relationship was reported as a stressful life event possibly precipitating the incident. Following intensive supportive treatment, including ventilation and hemodynamic support, the patient died.

Case 2: A 14-year-old female was admitted to a paediatric ICU following an overdose of her prescription medication (lithium). There was a history of previous suicide attempt, and the patient had been under the care of both a paediatrician and a mental health professional for management of a mood disorder. The patient was treated in the ICU for a total of 2 days prior to discharge home. At discharge, referral for psychiatric consultation was placed, follow-up with her mental health professional was arranged and a prescription for psychiatric medication was provided.

Learning Points

- Suicide is the second leading cause of death among Canadian youth (15 to 19 years of age), representing almost 30% of all deaths in this age group in 2014 (1). The primary methods of suicide among youth 10 to 19 years of age are hanging and suffocation (2,3).
- For every adolescent that dies by suicide, there are 20 to 40 attempts (4). Youth who make near-fatal suicide attempts—such as those requiring ICU level care—may closely approximate those who die by suicide. Despite the unique and important knowledge that may be gained from understanding near-fatal suicide attempts, research in this area is largely absent.
- A Canadian Paediatric Surveillance Program (CPSP) study aims to address this knowledge gap by reporting on children and adolescents (up to 18 years of age) who are admitted to the ICU for medically serious self-inflicted injury or suicide attempt, over a 2-year period beginning in January 2017. The study's primary objective is to describe the pattern of presentation, clinical features, and associated medical needs of children presenting to hospital with self-harm requiring ICU care, including demographic information, psychiatric and medical history, as well as clinical case management and outcomes. The CPSP is a national surveillance network of 2,700 paediatricians and paediatric subspecialists who voluntarily report on rare diseases and conditions that are high in disability, morbidity and economic cost to society, despite their low frequency.
- Preliminary data can be obtained from the 40 cases reported to date from Ontario, Quebec and Alberta. In the first year of data collection, the mean age of cases reported was 15.4 years (range 11 to 18 years). Although nearly three-quarters (73%) of the reported cases were female, the deaths were primarily males (71%). Among females, the most common method of self-inflicted injury resulting in ICU admission was overdose ingestion (69%), as compared with hanging among males (36%). There were seven deaths (18%) of which six were the result of hanging.
- The majority of the cases were White (69%), born in Canada (75%), and living with one (44%) or both (26%) biological parents. The most common precipitating events associated with the suicide attempts (fatal and nonfatal) were family conflict (51%), conflict with peer(s) (23%) and loss of a romantic relationship (23%). In only 20% of the cases, the parents/caregivers were aware that their child was considering suicide.
- More females had a history of previous suicide attempt (54%), compared with males (20%). Almost all of the cases

that had received prior psychiatric diagnoses, and were under the care of a health care professional, were female. Of the 30 surviving cases that were discharged from the ICU, only 72% were referred for follow-up with at least one health professional.

- These preliminary data are consistent with epidemiologic data that demonstrate females have a higher rate of suicide attempts, while males display a higher rate of suicide mortality. The study data to date suggests important differences exist between adolescent males and females with respect to mental health service use and means of self-inflicted injury among those with serious suicide attempts.
- This study will extend current knowledge by providing greater detail with respect to personal and psychiatric history, situational factors and management of adolescents following a near-fatal suicide attempt. Continued awareness

of the CPSP study on medically serious self-harm in youth requiring ICU admission is required across the country and case reporting is encouraged by all paediatricians to ensure good data capture and the wide representation necessary for informing next steps.

References

1. Statistics Canada. Leading Causes of Death, Total Population, by Age Group and Sex, Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=1020561> (Accessed December 7, 2017).
2. Statistics Canada. Deaths, by Cause, Chapter XX: External Causes of Morbidity and Mortality (V01 to Y89), Age Group and Sex, Canada, 2014. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=1020540> (Accessed December 7, 2017).
3. Skinner R, McFaull S. Suicide among children and adolescents in Canada: Trends and sex differences, 1980–2008. *CMAJ* 2012;184(9):1029–34.
4. Government of Canada Public Health Infobase Data Visualization. (2016). *Suicide in Canada: Current Context*. Retrieved December 18, 2017 from <http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/suicide-canada-infographic/alt/infographic-infographique-eng.pdf>