Child Abuse & Neglect 37 (2013) 139–149

Contents lists available at SciVerse ScienceDirect

Child Abuse & Neglect

Child maltreatment and repeat presentations to the emergency department for suicide-related behaviors☆,☆☆

Anne E. Rhodes[a,b,c,d,*], Michael H. Boyle[e], Jennifer Bethell[a,c], Christine Wekerle[f], Lil Tonmyr[g], Deborah Goodman[h,i], Bruce Leslie[j], Kelvin Lam[d], Ian Manion[k]

[a] The Suicide Studies Research Unit, The Keenan Research Centre at the Li Ka Shing Knowledge Institute of St. Michael's Hospital, Ontario, Canada
[b] Department of Psychiatry, Faculty of Medicine, University of Toronto, Ontario, Canada
[c] Dalla Lana School of Public Health, Faculty of Medicine, University of Toronto, Ontario, Canada
[d] The Institute for Clinical Evaluative Sciences, Toronto, Ontario, Canada
[e] Department of Psychiatry and Behavioural Neurosciences, Offord Centre for Child Studies, McMaster University, Hamilton, Ontario, Canada
[f] Department of Pediatrics, McMaster University, Ontario, Canada
[g] The Injury and Child Maltreatment Section, Health Surveillance and Epidemiology Division, Public Health Agency of Canada
[h] The Children's Aid Society of Toronto, Child Welfare Institute, Ontario, Canada
[i] Factor-Inwentash Faculty of Social Work, University of Toronto, Ontario, Canada
[j] The Catholic Children's Aid Society of Toronto, Ontario, Canada
[k] The Ontario Centre of Excellence for Child and Youth Mental Health, Canada

ARTICLE INFO

Article history:
Received 14 May 2012
Received in revised form 24 July 2012
Accepted 26 July 2012
Available online 20 December 2012

Keywords:
Self-injurious behavior
Suicide
Attempted suicide
Child abuse
Child welfare
Emergency medicine

ABSTRACT

Objectives: To identify factors associated with repeat emergency department (ED) presentations for suicide-related behaviors (SRB) – hereafter referred to as repetition – among children/youth to aid secondary prevention initiatives. To compare rates of repetition in children/youth with substantiated maltreatment requiring removal from their parental home with their peers in the general population.

Methods: A population-based (retrospective) cohort study was established for children/youth with a first ED SRB presentation at risk for repetition in the Province of Ontario, Canada between 1 January 2004 and 31 December 2008. Children/youth legally removed from their parental home because of substantiated maltreatment ($n = 179$) and their population-based peers ($n = 6{,}305$) were individually linked to administrative health care records over time to ascertain social, demographic, and clinical information and subsequent ED presentations for SRB during follow-up. These children/youth were described and their repetition-free probabilities over time compared. To identify factors associated with repetition we fit multivariable, recurrent event survival analysis models stratified by repetition and present unadjusted and adjusted hazard ratios (HRs) and 95% confidence intervals (CIs).

☆ Support for this project was provided by an operating grant from the Canadian Institutes of Health Research, PCY: 86888 in conjunction with support and partnership from the Institute for Clinical Evaluative Sciences (ICES); the Ontario Ministry of Children and Youth Services; the Child Welfare League of Canada; Ontario Association of Children's Aid Societies; The Ontario Centre of Excellence for Child and Youth Mental Health and The Injury and Child Maltreatment Section, Health Surveillance and Epidemiology Division, Public Health Agency of Canada. ICES is funded by an annual grant from the Ontario Ministry of Health and Long-Term Care.

☆☆ *Disclaimers*: The opinions, results and conclusions reported in this paper are those of the authors and do not necessarily reflect the official policy or position of the affiliated or acknowledged organizations. No endorsement by these organizations is intended or should be inferred.

* Corresponding author address: Suicide Studies Research Unit, St. Michael's Hospital, 2 Shuter Wing, Suite 2010f, 30 Bond Street, Toronto, ON M5B 1W8, Canada.

0145-2134/$ – see front matter
http://dx.doi.org/10.1016/j.chiabu.2012.07.009

Results: Children/youth with substantiated maltreatment (as noted) were two times more likely to have repetition than their peers after adjustments for social, demographic, and clinical factors (conditional on prior ED SRB presentations). A number of these factors were independently associated with repetition. No one factor distinguished between having a first and second repetition nor was more strongly associated with repetition than another.
Conclusions: The risk of repetition is higher in children with substantiated maltreatment (as noted) than their peers. No one factor stood out as predictive of repetition. Implications for secondary prevention initiatives include a non-selective approach, sensitive to family difficulties and the need to better contextualize repetition and harness data linkages.

Introduction

Background

In a previous study (Rhodes et al., 2012) we introduced resiliency as "the ability to maintain or regain mental health, despite experiencing adversity" (Herrman et al., 2011, p. 259). We underscored the need for ongoing environmental support (Afifi & MacMillan, 2011; Wekerle, Waechter, & Chung, 2012), in the form of provider and system level linkages between the health and child welfare sectors to prevent the need for presentations to the emergency department (ED) for suicide-related behaviors (SRB) in children/youth. In this study, we focus on ways in which repeat presentations to the ED for SRB in children/youth may be prevented.

SRB are defined as (fatal or non-fatal) self-inflicted injuries or self-poisonings with suicidal, undetermined or no suicidal intent (Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007a, 2007b). Both survey and health service data show non-fatal SRB peak in adolescence (Bethell & Rhodes, 2009; Colman et al., 2004; Corcoran, Keeley, O'Sullivan, & Perry, 2004; Hawton & Harriss, 2008a). The strongest predictor of contacting health services after SRB among adolescents is suicidal intent (Ystgaard et al., 2009). For children/youth who present to the ED with non-fatal SRB, about one quarter will repeat in the following year (Hulten et al., 2001; Stewart, Manion, Davidson, & Cloutier, 2001; Vajda & Steinbeck, 2000). Further, their risk of subsequent mortality is 3 to 4 times higher than expected, particularly for suicide (10–20 times higher) (Hawton & Harriss, 2007; Reith, Whyte, Carter, & McPherson, 2003).

Intervention studies aimed at preventing SRB in children/youth, including ED initiated ones, have been inconclusive, conceivably because of methodological weaknesses (Newton et al., 2010; Robinson, Hetrick, & Martin, 2011). Intervention trials in adults with SRB recruited from the ED have not demonstrated a reduction in the proportion who repeat; however, among those who do repeat, the number of repetitions were reduced (Bennewith et al., 2002; Carter, Clover, Whyte, Dawson, & D'Este, 2007). A more recent trial in adults with ED SRB presentations, found the proportion of those with a subsequent ED SRB presentation was reduced, but only among those who had presented to the ED for SRB in the past (Hatcher, Sharon, Parag, & Collins, 2011). Together these trials provide hope that programs can reduce ED SRB presentations but also raise questions about why those with a first ED SRB presentation do not seem to respond to interventions as well as those with a prior presentation. As many of the adults (age 16 or more) in these trials may have first presented to the ED with SRB as children/youth, we seek to better understand repetition over time in the pediatric population from the perspective of developing secondary preventive strategies.

Few studies have followed children/youth presenting to the ED for SRB over time to identify factors associated with repeat ED SRB presentations. Further, as children/youth in these hospital-based studies were not linked to their health care records outside of their study hospital(s), first and repeat presentations may not have been fully captured, potentially biasing associations. Also, as youth with prior SRB have a shorter time to repetition than those with a first SRB (Hulten et al., 2001), this baseline difference in risk (hazard function) needs to be taken into account when estimating associations with repetition (Bergen, Hawton, Waters, Cooper, & Kapur, 2010). Still, there were some common findings: repetition did not differ by sex (Hawton & Harriss, 2008b; Hulten et al., 2001; Reith, Whyte, & Carter, 2003; Stewart et al., 2001; Vajda & Steinbeck, 2000), but was more frequent among those who saw a mental health professional in the past (Stewart et al., 2001), or had a mental illness, particularly drug or alcohol abuse or non-affective psychoses (Vajda & Steinbeck, 2000; Reith, Whyte, & Carter, 2003; Reith, Whyte, Carter, & McPherson, 2003). Repetition was also more common among those with a history of childhood abuse (Stewart et al., 2001; Vajda & Steinbeck, 2000). In the latter (Canadian) study of 224 children/youth (ages 7–19) with a first suicidal (ideation, plan or attempt) ED presentation, 14.4% were Crown wards (described below) and were about twice as likely to return to the ED for mental health reasons within 6 months. Three-quarters of these returns were for a suicide attempt (Stewart et al., 2001). Accordingly, we seek to identify factors associated with repeat ED SRB presentations, (hereafter referred to as repetition), among children/youth first presenting to the ED with SRB in a large population-based sample. We hypothesize that Crown wards will be at greater risk for repetition than their peers (Stewart et al., 2001), despite adjustments for sociodemographic and clinical factors (conditional on prior ED SRB presentations). In addition to the factors noted above, we control for aspects of the ED SRB presentation and place of residence as these factors may reflect, in part, the use of the ED for regular ambulatory care (Rhodes et al., 2012).