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Research paper

A comparison of methods of self-harm without intent to die: Cutting versus self-poisoning

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ABSTRACT

Background: Non-suicidal self-injury (NSSI) in DSM-5 Section 3 is restricted to damaging the skin, while self-poisoning is not considered NSSI even if there was no suicidal intent. The objective of this study was to compare correlates of people who self-cut and those who self-poison without suicidal intent, to determine whether people who harm themselves by cutting are a distinct subgroup.
Methods: There were 12,435 presentations to adult psychiatric services in the emergency departments of tertiary care hospitals in Manitoba between January 2009 and December 2013. Chart reviews were conducted for all presentations with self-harm without suicidal intent (n=219; 1.8% of the total sample). People presenting with cutting (n=47) were compared to those presenting with self-poisoning (n=116).
Results: There were no differences between the groups on most demographic measures, except for age, where the people who cut were younger. Mental disorders were common in both groups. 31.9% of the cutting group had an alcohol use disorder, as did 25% of the self-poisoning group. Cluster B personality traits/disorder was diagnosed more frequently in the cutting group (51.1%) than the self-poisoning group (37.9%), but this difference was non-significant. Previous non-suicidal self-harm was more common among people cutting.
Limitations: We were unable to draw conclusions about the risk of suicide.
Conclusions: People who engage in non-suicidal self-harm have high rates of mental disorders. The method that people use to harm themselves does not appear to distinguish these groups; they appear to be similar on most demographic and diagnostic correlates. Further study is required to determine the validity of NSSI, including studies that compare those who self-harm with and without suicidal intent.

1. Introduction

Non-suicidal self-injury (NSSI) is prevalent among clinical samples, with rates of 21.7% among adolescent outpatients (Garcia-Nieto et al., 2015) and 82.4% among adolescent inpatients (Nock and Prinstein, 2004). There is very little recent data on prevalence among clinical adult samples, with older studies showing rates of 19–25% among adults (Briere and Gill, 1998). NSSI is also common among nonclinical samples, with rates of 17.2–18% among adolescents (Muehlenkamp et al., 2012; Swannell et al., 2014; Zetterqvist et al., 2013), 13.4% among young adults (Swannell et al., 2014), and 5.5–5.9% among adults (Klonsky, 2011; Swannell et al., 2014). NSSI is associated as well with a number of adverse outcomes including psychiatric morbidity, suicide attempts, and suicide (Cox et al., 2012a, 2012b; Joyce et al., 2010; Parker et al., 2005; Sansone et al., 2006; Wilcox et al., 2012).

NSSI has been included in DSM-5 as a condition requiring further study (American Psychiatric Association (APA), 2013). One reason why NSSI was included in this fashion instead of being included as a disorder in DSM-5 was because of its poor test-retest reliability during DSM-5 Field Trials (kappa values <0.20, unacceptable range) (Regier et al., 2013; Zetterqvist, 2015). In order to receive a diagnosis of NSSI, according to DSM-5 Section 3 criteria, an individual must have, in the previous year, on 5 or more days, "…engaged in intentional self-inflicted damage to the surface of his or her body of a sort likely to induce bleeding, bruising, or

Abbreviations: C-CASA, Columbia Classification Algorithm of Suicide Assessment; DSM-5, Diagnostic and Statistical Manual of Mental Disorders- 5th edition; NSSI, Non-suicidal self-injury; NSSH, Non-suicidal self-harm; SAFE, The Suicide Assessment Form in Emergency Psychiatry

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pain (e.g., cutting, burning, stabbing, hitting, excessive rubbing), with the expectation that the injury will lead to only minor or moderate physical harm (i.e., there is no suicidal intent)," (p. 803, APA, 2013). This definition excludes other methods of self-harm, such as self-poisoning, even if the person did not intend to die. Research shows that there is a population of individuals who self-poison and report no suicidal intent (O'Connor et al., 2007); classification of these presentations based on DSM phenomenology is challenging. Furthermore, there exists controversy regarding the practice of distinguishing between different methods of non-suicidal self-harm versus classifying the group as a whole (Kapur et al., 2013). All methods of self-harm are associated with future risk of suicide including self-cutting, which incurs no less of a risk than other methods (Bergen et al., 2012; Cooper et al., 2005; Hawton et al., 2012). In addition, a person's choice of self-harm mechanism is not static: people often switch from cutting to self-poisoning on subsequent presentations (Owens et al., 2015). Self-poisoning is the most common hospital presentation for self-harm, followed by self-cutting (Belgamwar et al., 2006; Bergen et al., 2010; Bethell et al., 2013; Bilen et al., 2011; Hawton et al., 2007; Michel et al., 2000; Perry et al., 2012). Given that these are the methods of self-harm encountered most frequently in emergency settings, it is important that their correlates and outcomes are well understood.

A number of cross-sectional studies on combined samples of adolescents and adults have compared people who self-cut to people who intentionally self-poison. A recent study by Arensman et al. (2014) used a large sample (42,585) of self-harm presentations to Irish emergency departments to compare those who presented with self-cutting only to those who presented with intentional self-poisoning only. They found that compared with intentional self-poisoning only, self-cutting only was associated with being male, residing in the city, having no fixed abode or living in an institution, presenting on the weekend and outside 9 am to 5 pm, having no alcohol involvement, re-presenting to hospital within 12 months, and being younger than 45 years for males and being younger than 55 years for females. While this study featured a large sample, it was not focused on self-harm that was without suicidal intent. Other studies have found that those who self-cut were distinguished from those who self-poison by being male, younger, having a history of previous contact with mental health services, being single, not employed, living alone, misusing alcohol, having low suicidal intent, and having a history of previous self-harm (Hawton et al., 2004; Lilley et al., 2008). Those who self-cut were also less likely to receive a psychosocial assessment and to be admitted to hospital compared to those who self-poison (Lilley et al., 2008).

Another important difference between people who self-cut and self-poison is the motivation for the behavior (Briere and Gill, 1998; Rodham et al., 2004; Skegg, 2005). People who self-cut have been found to have increased feelings of hopelessness, and emotional reactivity compared to those who intentionally self-poison (Larkin et al., 2013). Different intentions for self-cutting have been endorsed compared to self-poisoning; these include self-punishment, tension reduction, distraction from negative feelings, to decrease dissociative symptoms, distraction from painful memories, and to express distress to others (Briere and Gill, 1998; Skegg, 2005).

Unfortunately, both a thorough understanding of non-suicidal self-harm and the desire to achieve diagnostic clarity are hampered by an underdeveloped knowledge base (Zetterqvist, 2015). There are few studies of NSSI in adults, and a limited number of longitudinal studies (Kapur et al., 2013). A frequent shortcoming in the literature examining methods of self-harm is that there has been little distinction between those who intended to die and those who self-harmed for other reasons. Given the high prevalence of self-poisonings in the emergency department, including those without suicidal intent, it is important to understand these presentations and how they compare to those that feature cutting. The aim of the present study was to compare correlates of different methods of self-harm without intent to die in an adult emergency department population; specifically, those who intentionally self-poison to those who self-cut to determine whether people who harm themselves by cutting are a distinct subgroup. Although people may use both self-poisoning and cutting in the same episode (Arensman et al., 2014), this study focused on individual methods of self-harm. Using a large clinical database of adults with a standardized assessment of non-suicidal self-harm using the Columbia Classification Algorithm of Suicide Assessment (C-CASA) (Posner et al., 2007), this study was able to address many of the limitations in existing literature.

2. Method

2.1. Participants

This study used the Suicide Assessment Forms in Emergency Psychiatry (SAFE) Database, which captured all adult (18 years and older) presentations (N=12,435) to the emergency department who were referred to psychiatry at the two tertiary centers in Winnipeg, Canada, from January 1st, 2009 to December 31st, 2013. The baseline assessments were completed by psychiatry residents (pre-registration trainees) supervised by staff psychiatrists associated with the Department of Psychiatry at the University of Manitoba. Using the C-CASA (Posner et al., 2007) as part of the SAFE Database, 437 presentations of "self-injurious behavior; no suicide intent" were identified (termed non-suicidal self-harm (NSSH) from now on). Other presentations, including those with no self-injurious behaviors or self-injurious behaviors with at least some intent to die were excluded from this study. Individual chart reviews were conducted on each of the presentations and a total of 219 individuals were included who presented with first-time NSSH presentations during the study period (see Fig. 1).

2.2. Procedure

Chart reviews of individuals whose presentation was identified as NSSH were performed by two psychiatry residents. The authors designed a standardized data extraction tool for the chart reviews and the senior author trained the residents on its use. The data captured included sociodemographic variables, physician-generated diagnoses (current and past), and patient disposition. All the obtained information was based on the psychiatry consult notes at the time of index assessment. In instances where there were uncertainties regarding the classification of NSSH or other case details, two authors reviewed the case. In cases of disagreement, the senior author (JB) made a final decision about NSSH classification or other variable coding. There were 68 presentations that were determined to not feature NSSH after additional review and were therefore excluded from the study (see Fig. 1).

2.3. Variables of interest

The sociodemographic information included date of birth, sex, marital status, employment status, and highest level of education achieved. Information related to the current presentation, including the type of self-injury at presentation, disposition of patients post-assessment, Axis I and II diagnoses, and substance use were obtained. Axis II-related presentations included information about traits (i.e. Cluster B personality traits) and disorder diagnosis (i.e., borderline personality disorder). Previous history of self-harm,

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