The Emergency Assessment and Management of Non-Suicidal Self-Injury in Adolescents

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Abstract: Background and Goals: Non-suicidal self-injury (NSSI) is a common presenting issue mental health providers experience in all levels of care from outpatient clinics to inpatient units. It is common among adolescents seen in emergency settings, either as a presenting problem or as a covert condition that may not be detected unless specifically assessed for. The presence of NSSI increases the risk of suicide. This article aims to help the clinician develop a better understanding of NSSI – what it may entail, the prevalence, and the motivations for why young people engage in it.

Methods: We review the reasons adolescents injure themselves, the link between NSSI and psychiatric diagnoses and suicide, the assessment of NSSI, and treatment planning, with emphasis on ways to screen for NSSI and interventions that can be implemented in the Emergency Department. We illustrate the complexity of NSSI with the case of a young patient with a complex psychiatric history and an extensive history of self-injury.

Results and Discussion: Despite the seeming intractability of NSSI, a number of evidence-based treatments exist. Treatment primarily involves specialized forms of psychotherapy, but interventions can be implemented in the ED that will reduce the immediate risk of NSSI while more definitive intervention is awaited.

Conclusion: Mental health consultations in the ED should always include screening for NSSI. Mental health professionals in the ED can play an important role in the detection and treatment of this condition.

Keywords: Adolescents, non-suicidal self-injury, NSSI, psychiatric emergencies, psychiatric diagnosis, DBT.

1. INTRODUCTION

Non-suicidal self-injury (NSSI) is a fairly common finding amongst adolescent and young adults and may be encountered by providers in urgent and emergency care settings (Cloutier, Martin, Kennedy, Nixon & Muehlenkamp, 2010). Studies report that these findings may be present in about 10% of adolescents, with about 35% of those who are hospitalized being impacted (Grandclerc, Labrouhe, Spondenkiewicz, Lachal & Moro, 2016).

NSSI is defined as intentional and non-socially acceptable behaviors that are intended to cause destruction or impairment of bodily tissue but only minor or moderate physical harm, performed without any conscious suicidal intention, self-directed, and used to reduce psychological distress (Grandclerc, et al., 2016). These may include things like cutting, burning, biting, punching, hitting, banging, and even ingestion of toxic substances or the interference of wound healing. (Whitlock, Eckenrode, & Silverman, 2006). NSSI typically begins around puberty, around ages 13 to 15, and may continue into adulthood. Some studies indicate that girls present with symptoms earlier than boys and are at higher risk than boys, but oth-
ers indicate little difference in the genders (Jacobson & Gould, 2007).

2. NON-SUICIDAL SELF-INJURY AND SUICIDE

One of the more difficult tasks for clinicians evaluating an adolescent with NSSI is to discern the differences between NSSI and suicidal ideation. NSSI, by definition, does not involve the intention to end one's life (Grandclerc et al., 2016). Per Nock’s work about the reasons for self-harm, frequent justifications given by adolescents to justify their NSSI include both intrapersonal and interpersonal reasons. Intrapersonal reasons include seeking relief from negative emotions or to allow them to feel something, which may relieve numbness or anhedonia. Interpersonal reasons include to communicate their distress, ask for help, or to escape from a difficult situation (Nock, 2010).

Many patients who experience NSSI have also had histories of suicide attempts – one recent study notes that 70% of adolescents engaging in NSSI have had at least one suicide attempt, and 55% had multiple suicide attempts (Peterson, Freedenthal, Sheldon, & Andersen, 2008). There is also overlap in the psychiatric disorders that are present in individuals who experience NSSI and in those who experience suicide attempts, making understanding the relationship between NSSI and suicidal behavior an important one to understand (Grandclerc et al., 2016).

There is much discussion in the literature about how to characterize the relationship between suicidal behavior and NSSI (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). Some postulate that there may be shared risk factors between the two. These may include psychiatric disorders, most particularly major depression and post-traumatic stress disorder, but also disorders such as attention deficit hyperactivity disorder, borderline personality disorder, substance abuse, post-traumatic stress disorder, conduct disorder, and externalizing behaviors. Individuals with both report more symptoms of self-denigration, anhedonia, impulsivity, and experience more suicidal ideation and family discord, and report fewer reasons to live. Other shared risk factors may be contextual, such as a history of physical or sexual abuse, or family dysfunction (Grandclerc, et al., 2016).

There is also discussion of whether NSSI modulates the risk of suicide. Some believe that NSSI may be protective against suicide – that the very act of only destroying part of one’s body in a non-lethal way may serve as a compromise of both being able to destroy oneself while also sparing one’s life (Firestone, 1990). However, much of the literature supports that NSSI may serve as a strong risk factor for suicide, including the TORDIA study (Asarnow, et al., 2011). The TORDIA study found key suicide risk factors related to NSSI to be 1) increased frequency of self-injury, 2) utilizing multiple methods to self-injure, 3) duration of self-injury greater than one year, 4) specific use of cutting, 5) absence of physical pain during the act, 6) severe physical damage, 7) strong conscious intention to die, and 8) concealment of the act.

One model hypothesizes that NSSI and suicidal are on two ends of the same spectrum and that NSSI may serve as an antecedent to suicide (Gicquel & Corcos, 2011). This gateway model is supported by many studies and postulates that NSSI may be a single, independent risk factor for suicidal behavior (Brausch & Gutierrez, 2010). Joiner's theory suggests that repetitive self-injury may disrupt pathways linked with stress-induced analgesias, such as endogenous opioid and endocannabinoid pathways (Joiner, 2005). This theory postulates that this disruption then leads to pain tolerance – thus repetitive self-injury leads as a pathway for an individual to become capable of suicide (Grandclerc, et al., 2016).

There is a contagion effect of NSSI and this can come from peer group and media influences.

3. SCREENING AND ASSESSMENT OF NON-SUICIDAL SELF-INJURY

As NSSI is common in the general population but particularly common in psychiatric patients, all adolescents who see a mental health practitioner in the setting of the Emergency Department should be screened. ED staff needs to be made aware of the importance of universal screening for adolescents presenting with mental health issues. They also need to be educated about NSSI. Clinicians often feel uncomfortable with how to communicate with patients regarding self-injury and may feel inexperienced with how to assess and treat it (Taylor, 2009). They may vent to their mental
health colleagues about not understanding why anyone would hurt themselves on purpose and they have other patients to treat who did not make the choice to be ill. Often there is an underlying feeling that emergency room staff feel that young people who self-injure are doing so for attention and to use up staff time.

It is recommended that the initial screening takes place separately from the parents as young people may be more hesitant to disclose NSSI in front of their parents as they may be concerned about the reaction they receive from their parents (Walsh, 2012). One way to screen is in the same time period that you screen for suicide ideations. One question to ask is "Do you ever have thoughts of harming yourself without wanting to die?" Most people that engage in self-injury will know immediately what the question demands. For those that appear like they do not fully understand the question, one may add "Do you ever cut yourself, hit yourself, or anything else to hurt yourself without wanting to die?" Usually, if the adolescent answers no to this question, one can move on to assessing other areas. The same skills that one uses to ask about suicide should be used when inquiring about NSSI (Klonsky, 2007). One should keep a neutral presentation as likely others in their lives have had a more extreme reaction when they found out about the NSSI (Linehan, 1993).

If the young person responds that they do self-injure, the next question is typically about why using Nock's guide of the functions of NSSI. Nock describes the functions of NSSI as to decrease intense emotions, to feel something if feeling numb, to get interpersonal support or to get out of a role (Nock, 2010). In teenagers, most commonly NSSI is utilized for emotional regulation (Nock, 2010). A typical way to ask the question of why someone self-injures is to say something along the lines of "Some people with self-harm when they feel too much emotion and they do not know how to manage it, some self-harm when they don't feel anything and they self-injure to feel something, some will self-harm as punishment, and some will self-harm to signal to others that they are in distress. What are some of the reasons that you tend to self-harm?" A follow-up question about whether the self-harm is effective may be useful in assessing how reinforcing the behavior may be, such as, "How do you feel immediately after self-injury and what about later in the day?" (Nock, 2010).

At this time, it is important to gather as much information about the NSSI to determine an appropriate treatment plan and to assess for suicide to ensure safety, as a youth that self-harm is at an increased risk of suicide attempts. It is important to assess the circumstances around why they self-injured the first time as this can give information on mental state, peer groups, and family circumstances. There are tools for clinicians to utilize for the assessment of self-injury, including the SOARS assessment and the NSSI-AT. (Whitlock, under review), (Westers, 2016). Common themes of assessment include functions of the self-injury, aftercare for treating wounds, accompanying suicidal ideation, onset, frequency, duration, and an individual’s readiness to change (Westers, 2016).

A behavioral analysis of the self-injury is necessary in order to determine appropriate interventions (Linehan, 1993). One should assess for what circumstances tend to lead to self-injury, where does the adolescent self-harm (i.e. at home, in their bedroom, at school), what do they use to self-harm, where on their body do they self-harm, how often do they self-harm, how do they feel immediately afterwards and subsequently. One should also assess their motivation to stop self-injuring (Nock, 2007). One should also assess ways the adolescent has attempted to cope with the urges to self-harm in the past and how successful these coping skills have been (Walsh, 2012). Often there are skill deficits in communication and problem-solving (Linehan, 1993). As NSSI is maintained through positive reinforcement, it is important to assess for potential reinforcers, including the simple but powerful enforcer of attention and care after self-harming (Muehlenkamp, 2006).

4. TREATMENT OF NON-SUICIDAL SELF-INJURY

The treatment of NSSI primarily involves psychotherapeutic interventions as there is very limited evidence that medication is helpful for NSSI, although medications can help with the mental health disorders associated with NSSI (Klonsky,
Common features of successful treatments of NSSI include time-limited therapy, an active therapist, structured therapy that targets the NSSI from the beginning and targeting skill deficits in problem-solving, communication, and distress tolerance (Muehlenkamp, 2006).

Although it can take several weeks to find a therapist that can provide evidence-based treatment for NSSI, any practitioner can make simple recommendations that can help to decrease NSSI as the youth waits for therapy to begin (Walsh, 2012). For example, modifying the environment to decrease the likelihood of self-harm can be a high yield intervention (Nock, 2007).

After one has completed the functional behavioral analysis of the NSSI; one has a basic understanding of the reasons and likely triggers for the NSSI (Linehan, 1993). If a youth notes that they also cut with a razor in the bathroom, removing razors from the bathroom may give the youth more time to think about other coping skills to use. One can also suggest replacement behaviors when they have urges to self-harm. For instance, if the youth is using NSSI to regulate their emotions, they hold ice or a frozen orange to get the same sensation from the NSSI. If the youth is using self-harm to communicate their distress, they could use markers and write or draw on their arms. Replacement behaviors are often thought of as a hierarchy where one is trying to move the young person from maladaptive coping skills to more and more adaptive ways of coping. Holding a frozen orange is more adaptive then cutting as it does not create tissue damage, but it still is not socially acceptable. The hope is that over time, the youth would be able to move from NSSI to holding an orange to talking with others to regulate their emotions (Walsh, 2012).

As with most therapy, one key element is the therapeutic alliance that creates a safe and contained environment where change can occur. Often a young person gets a large reaction when they disclose self-injury and often people offer a simple solution to the self-harm such as "stop it." This is invalidating and greatly simplifies the difficulty in changing this self-destructive coping skill. One way to help establish an alliance is to acknowledge the pain that a young person must be experiencing and the functionality of the NSSI as no one would continue to self-harm if it did not provide functional value to the patient. This acknowledgment that the self-injury is serving a purpose helps the young person to understand and help them to begin to acknowledge that they need a more adaptive manner of dealing with distress. This is particularly helpful as often adolescents who self-injure have ambivalence about stopping the behavior. It is often helpful to acknowledge the ambivalence. (Kress & Hoffman, 2008)

Motivational interviewing (MI) can be used to help adolescents explore and resolve their ambivalence to stop self-injuring. The three main elements of MI are collaboration, evocation, and autonomy. In MI, the therapist invites the patient to change using empathy, helping the patient develop a discrepancy between their values and their current behaviors, rolling with resistance, and supporting the patient’s sense of agency (Miller & Rollnick, 2002). There are generally two phases in MI. The first focuses on building the adolescent’s own motivation to stop NSSI where the therapist helps the adolescent explore their ambivalence and clarify their own reasons to stop self-injuring. Therapists can help adolescents develop their motivation to stop self-harming by using the OARS acronym which stands for open questions, affirming, reflecting, and summarizing. In the second phase, the therapist helps the adolescent strengthen their commitment to change (Kress & Hoffman, 2008). It is important to remember that treatment is rarely linear, and one may have to go back to exploring ambivalence with the adolescent several times throughout the course of treatment (Miller and Rollnick, 2002).

The evidenced-based treatment for NSSI are intensive therapies and in order to be effective, there needs to be buy-in from the adolescent to change behaviors. DBT and commitment strategies that are often used in the beginning to get a commitment from the young person (Linehan, 1993). Sometimes, the young person and families need some assistance. One way to do this is to use motivational enhancement interviewing to help the young person come up with their own reasons for wanting to end their self-harm (Kress and Hoffman, 2008).

Dialectical behavior therapy (DBT) was originally created by Marsha Linenhan (1993) for the treatment of borderline personality disorder, which frequently includes NSSI (in fact NSSI is one of
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the diagnostic criteria). DBT improves emotional regulation, distress tolerance, and interpersonal effectiveness skills (Linehan, 1993). DBT has been adapted for adolescents by Miller and has been adapted for a 12-week program for adolescents who engage in NSSI. It has been shown to be effective in the adolescent population for reducing self-injury, suicidal behaviors, and increasing psychosocial functioning in outpatient and inpatient populations. (Katz, Cox, Gunasekara & Miller, 2004) The adolescent version has been found to significantly decrease NSSI in adolescents (Nock, Teper, & Hollander, 2007). DBT meets many of the above criteria as NSSI is considered a target 1 behavior, as it is potentially life-threatening, which means the adolescent, therapist, and parents immediately begin to target the NSSI from day one of treatment. DBT is a time-limited therapy that has a strong behavioral focus that identifies and focuses on skills deficits (Linehan, 1993).

Mentalization-based treatment (MBT) has also demonstrated efficacy for NSSI. MBT is a psychodynamic therapy that works by increasing awareness about an individual’s own mind, the minds of others and the actions that result. This awareness helps increase emotional regulation and relationships. In a study of 80 adolescents with depression and self-harm, it was shown that MBT was better than treatment as usual in decreasing self-injury and depression scores (Rossouw, 2012).

5. CASE VIGNETTE

The following case illustrates a complex presentation of NSSI, to illustrate the clinical phenomena of NSSI – the prevalence, the perpetuating factors, challenges in evaluation and management, and how the presence of NSSI might relate to risk of suicide. Identifying information has been altered from the case to protect confidentiality.

Elizabeth is a 16-year-old female previously diagnosed with major depressive disorder (MDD), bipolar affective disorder type II, generalized anxiety disorder (GAD), and obsessive-compulsive disorder (OCD) who presented for inpatient admission with recurrent suicidal ideation, mood disturbance, and self-injury. She and her family had the goal of undergoing full medical workup for her presumed treatment-resistant depression, consideration for less commonly used medications, and evaluation for non-pharmacological treatment options and including transcranial magnetic stimulation and ECT.

Elizabeth had been intermittently suicidal for four years. She had not responded meaningfully to a combination of supportive psychotherapy and multiple medication trials across classes of medications, including SSRIs, SNRIs, mood stabilizers, tricyclic antidepressants, atypical antipsychotics, and atypical antidepressants. As Elizabeth’s admission unfolded, a lengthy history of non-suicidal self-injury and para-suicidal behaviors that predated her involvement with mental health professionals became clear.

Elizabeth started self-harming in secret at age 12, striving for perfection in academics and feeling a sense of drive and deservedness of the injury. She noted that it was not particularly helpful in meaningfully managing distress, and often made her feel “stupid” afterwards; however, it would slake her desire to self-harm for several days and thus allow her to concentrate on other matters. After years of escalation, she researched self-harm on the internet, and felt both alarmed and hopeful when she learned that she was suffering from a treatable condition. This allowed her to approach her parents with a minimized, yet concerning the account of her behaviors, which was responded to by seeking out a therapist.

Elizabeth’s self-injury escalated in diversity and seriousness of methods, but frequency remained stable. Her therapist referred her to a prescriber who prescribed antidepressants and mood stabilizers. The self-injury persisted despite medication. However, now that her parents were aware and often looking for marks, she would often rub or scratch rather than cut; Elizabeth did not want to disappoint her parents and felt ashamed of what she viewed as unfortunate behavior. However, she also felt out of control with regard to the NSSI, and one episode of self-harm was so severe that she required emergency room evaluation and the physician considered referral for surgical repair.

Elizabeth developed an interest in homeopathy, which her parents found encouraging as she had, by this point, withdrawn from many activities that had been meaningful to her. Unfortunately, her
interest was centered on the potentially toxic effects of homeopathic treatments. She prepared a floral tincture which she ingested and became significantly ill. She denied that this was a suicide attempt, stating that she intended to consume a small amount and seek help immediately. She expected she might reach the brink of death but did not expect to die. She would not deny that this was a suicidal preparation. Meanwhile, she also experimented with swallowing small objects, such as coins, screws, and a plastic cap. She described that she felt driven to do so, similar to her urges around self-injury, but that she did not particularly expect to feel pain or be harmed by these ingestions. When describing her self-harm over the years before admission, she did not seem terribly alarmed and expressed that she expected this would resolve when her depression was treated.

As her admission unfolded, a crisis occurred in which another patient was attempting to elope, and Elizabeth became dysregulated, calling for nurses. They were too preoccupied with the other patient to respond promptly. She then bit herself savagely, and sat down in the day room until staff discovered her with blood all over her arm, torso, and face. Medical care was needed for stabilization of the wound, and though initially, it appeared well healing, ultimately Elizabeth required IV antibiotics for the cellulitis that developed around the wound. One staff member described the wound as “the worst self-harm I have ever seen on the unit” and others felt that she was punishing staff for ignoring her. Elizabeth was, again, seemingly not terribly concerned as she described the bite; she reported that she would not need to self-harm again for a long while after this dramatic incident, and that she felt bad about scaring her peers. She said she had experienced an unfortunate confluence of external factors in the milieu and internal distress, and had felt unable to wait for staff and helpless to soothe herself other than by biting her arm. In the moment of biting herself, she did not experience any hesitation, concern for injury or infection, or sense of being inhibited by the pain of the bite.

In Elizabeth’s case, concerning features that elevate her risk for suicide include her increasing severity of self-injury, even to the point of violence, and her widening diversity of methods. (Olfson, Wall & Wang, 2018). The team was also concerned about the analgesia during the act, her escalating indifference about harming herself, and her concealment of her injury. She seemed to regard clandestine self-injury as a both a skill to build as well as misbehavior; she became an undercover agent of self-injury. Her fascination with the creation of poisonous forms of homeopathic treatments, and ingesting substances toxic enough to cause illness but not death, fits with the model of compromise of preserving life while also simultaneously allowing for destruction of a part of herself (Favazza, 1989). Her self-injury became a salve. Although these behaviors concerned her, self-injury seemed to dampen negative emotions such that she could function. However, even as the self-injury seemed to provide an immediate protective function, her self-injury could also be conceptualized as a very concerning potential gateway for suicide (Hawton et al., 2012). The relief she experienced after self-injury served as a powerful driver for using NSSI as an external regulator of distressing emotional states.

CONCLUSION

Non-suicidal self-injury is common among adolescents and serves a variety of purposes for adolescents including emotional regulation and social roles. NSSI occurs in many diverse psychiatric illnesses and has a complex relationship with suicidality. As the rates of NSSI are high in the general adolescent population, and even higher in psychiatric populations, it is recommended that all adolescents who are seen by mental health staff in the ED be screened for NSSI. If an adolescent is found to engage in NSSI, it is important to gather as much information as possible to understand why the adolescent is engaging in NSSI and to make a determination on how to best treat them. DBT and MBT are evidenced-based treatments that have been found to reduce NSSI in adolescents.

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