NON-SUICIDAL SELF-HARM: TRANSLATING FINDINGS INTO STRATEGIES

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Case: *Julia is a 14-year-old teenager who was admitted to a residential facility for treatment of multiple episodes of self-harm, suicide attempts, running away from home, and a history of cigarette, alcohol, and marijuana use. She began cutting her arms and thighs at age 13, after she was forced into unwanted sex by a male schoolmate. Previous outpatient treatment for the self-harm, mood disorder, and substances included medication and dialectical behavioral therapy (DBT). These procedures were unsuccessful in reducing the self-harm, although there was improvement in her mood and a decrease in substance use. When she was admitted to the residential facility, the psychiatrist proposed that Julia draw temporary tattoos on herself as an alternative to self-harm, as body enhancement was seen by some other teens as a positive, creative, and novel alternative. She agreed to try this strategy, and put her considerable artistic talents to use. With the technique, she gradually decreased her negative thinking and use of self-harm as a coping method.*

How Common is Self-Injury?

A review of 53 studies between 2005-2011 found an 18% lifetime prevalence for Non-Suicidal Self-Injury (NSSI).[1] This prevalence rate is similar to that for deliberate self-harm (DSH) (16%), which includes self-harm with and without suicidal intent. The diagnosis of NSSI has been aided by its inclusion in the recent *DSM-5* conditions for further study.[2] A summary of the suggested *DSM-5* criteria is listed in Table 1.

In the past, NSSI has been thought of exclusively as a behavior of patients with borderline personality disorder, but this is not in line with current findings. According to the *DSM-5*, the two conditions are associated with several other diagnoses, including histrionic, narcissistic, and passive aggressive personality disorder.[3,4] In addition, patients with borderline personality disorder often exhibit aggressive and hostile behaviors, whereas NSSI is associated with "phases of closeness, collaborative behaviors, and positive relationships."[5] This suggests that self-injury occurs as one of the ways that teenagers manage communication with those to whom they are emotionally bonded. For these reasons, it is important to have an individual assessment and treatment/management plan for self-injury that is separate from one for borderline personality disorder or other disorders.

Assessing Self-Injury

The Ontario Self-Harm Inventory (OSI) measures both NSSI and DSH.[6] Recent research has focused on four of the original 31 factors from the OSI: internal emotional regulation (NSSI used to regulate internal emotions/ internal emotion regulation); social influence (NSSI used to gain something from others); external emotion regulation (NSSI used to regulate external emotions such as anger or frustrations); and sensation seeking (NSSI used to achieve excitement or thrill). These four factors accounted for 42.7% of the variance in predicting self-injury in a study of 4,705 university students. Furthermore, frequency of self-harm was correlated with higher scores on internal emotional regulation and sensation seeking, but not social influence or external emotion regulation. In addition to the four factors, the OSI assesses for the addictive potential of NSSI, as indicated by positive response to "finding relief after self-harming and always self-harming when thinking about it." The response to questions about the addictive elements of NSSI in the OSI also correlated with the four factors for self-harm noted above. The OSI is used by clinicians and researchers and is available free online.[7]

Overall, the OSI tells us that treatment of patients with NSSI can begin by focusing on four key factors: internal emotional regulation, social influence, NSSI used to regulate external and sensation seeking, as well as any addictive behavior associated with repetitive self-harm.

Table 1: Characteristics of Non-Suicidal Self-Injury (NSSI)

NSSI is associated with a history of several days of superficial self-injury that is intended to produce minimal injury, such as superficial cuts or burns. The purpose of the self-injury is to provide relief from psychological distress associated with internal or interpersonal conflicts. The self-injury methods can have addictive properties. The self-injury is not part of social norms, like tattoos, or mental illnesses, such as schizophrenia.

Treatment for Youth who Self-Harm

Most of the treatment trials for NSSI focus on the broader term DSH, which includes self-harm with suicidal intent and NSSI. For this reason, it is not possible to know if treatment has a different impact on NSSI than it does on individuals who self-injure and have suicidal thoughts. Common treatment methods and outcomes from these articles are discussed below, with a focus on adaptations of cognitive-behavioral therapy (CBT) and dialectical be-

havior therapy (DBT). Additional review of current child and adolescent treatments for NSSI and DSH can be found in two summary articles.[8,9]

CBT-Based Therapies

Problem solving therapy is a form of CBT based on improving skills dealing with decisions. For DSH, goals include developing a positive problem orientation, training in problem solving, reducing the avoidance of problem solving, and reducing the frequency of careless, impulsive decisions. Randomized controlled trials for DSH using problem solving therapy versus treatment as usual (TAU) demonstrate improvement in problem solving, depression, and hopelessness but not DSH.[10] A multi-site randomized controlled study of manual assisted CBT (MACBT) versus TAU in adults and adolescents showed no improvement in DSH.[11] A new format of MACBT is available and is still being validated.[12] The Treatment of SSRI-Resistant Depression in Adolescents (TORDIA) study compared CBT and selective serotonin reuptake inhibitor (SSRI) or venlafaxine. It specifically tracked NSSI and failed to show improvements in NSSI across treatments, including medication and CBT, despite improvement in mood.[13]

DBT-Based Therapies

Developmental group therapy for DSH consists of problem solving, other DBT skills, and psychodynamic psychotherapy, but has not demonstrated improvement in DSH compared to TAU.[14] DBT has been adapted for use with children with multiple problem behaviors, including NSSI and suicidal self-injury.[15] A recently published single blind study of 99 women with the diagnosis of borderline personality disorder who received DBT treatment found that the inclusion of social skills training led to the greatest improvement in NSSI acts.[16]

There are also clinical guidelines for DSH from the National Institute for Health and Clinical Excellence (NICE: http://www.nice.org.uk/guidance/cg133/chapter/introduction) and for "Self Harm" from the Royal Australian and New Zealand College of Psychiatrists (RANZCP). The guidelines stress the importance of developing a working relationship with patients who self-harm based on trusting relationships, respect for personal autonomy, sensitivity in sharing information with team members, and an integrated and comprehensive psychosocial assessment. The assessment includes a care plan that notes risk factors that promote self-harm as well as interventions to manage urges, plans, and actual self-injury that could include 3 to 12 sessions of a psychological intervention. In addition, other coexisting psychiatric conditions such as substance abuse, bipolar disorder, depression, and borderline personality issues are also a focus of treatment.

The RANZCP site includes a video summary of recommended treatment on the web site, some of which is general and some of which directly deals with care in Australia and New Zealand (www.ranzcp.org/Publications/Statements-Guidelines/Self-harm-practice-guidelines.aspx). The aforementioned guidelines have three overriding principles:

- People who present to hospitals with self-harm require a medical evaluation by a person trained in self-harm diagnosis and treatment.
- The assessment should include a mental health history including input from the person, the family, and the person's primary care physician. A risk assessment should be completed to determine whether inpatient or outpatient treatment is needed.
- A management plan should be created. It should include follow up arrangements with a mental health professional. It should be communicated to the patient, the family, and documented in the clinical record.

Other Behavioral Strategies for Self-Harm

Faced with the need to address the immediate aftermath of incidents of NSSI, clinicians often employ two general behavioral approaches: aversive strategies and habit reversal with CBT or DBT psychotherapies.

Aversive Methods

Table 2: Tips for Using Temporary Tattoos

- Explain to the teenager that temporary tattoos can be a creative substitute for self-harm, and that they can be changed at will to reflect different moods.
- Explain to the parent or guardian the benefit and safety of substituting temporary tattoos for self-harm.
- Provide 2 or 3 nontoxic markers of the teenager's color choice and a selection of skin decals (if possible), and have the adolescent demonstrate placing the tattoo. Provide positive statements about this activity.
- Encourage the teenager's parents, therapist, and staff to praise the tattoo effort.
- If an adolescent self-harms when having markers or decals, discuss the triggers for the self-harm. Then have him or her draw a tattoo or place a decal next to the site of the self-injury. Praise this new tattoo and urge practice with tattoos when these stressors recur.
- Do not give up. It often takes many trials to make the emotional switch from self-harm to positive self-enhancement.

Aversive methods include procedures that provoke mildly painful reactions to thoughts about self-harm. Examples include a rubber band placed on a patient's wrist, preferably on the same side as the self-injury, which is snapped in response to NSSI urges or an ice cube rubbed on the site planned for self-harm. Both of these methods could impact sensation-seeking-based-needs or possibly addictive urges. However, there is evidence that aversive conditioning has diminished impact on those with a high degree of sensation-seeking, so the strategy may not be theoretically supported.[17] Also it is reported that salt is sometimes intentionally combined with ice to produce rubbing injury and thus turns the aversive strategy into a self-punishment.[18]

Habit Reversal Methods: A Focus on Temporary Tattoos

Habit reversal is an approach that substitutes an alternative behavior in response to thoughts about cutting, burning or other methods of self-injury. One example is temporary tattoos. Temporary tattoos offer a popular method for habit reversal of NSSI. Using a temporary tattoo to replace self-harm is appealing to some patients because of its effect on social influence – it may impress peers, and it has sensation-seeking properties.[19] Temporary tattoos could potentially assist in internal and external emotional regulation by using drawing instead of cutting as a self-regulation tool. In addition, like permanent tattoos, temporary ones may also appeal to those with substance use/addiction issues. A body piercing magazine survey of 453 adult subscribers found that body alterations became a preferred way of self-expression in 1/3 of those who had engaged in NSSI during adolescence.[20] This information suggests that for some, tattoos are a natural progression from NSSI.[21] Although possible, the concern that temporary tattoos would lead to a wish for permanent tattoos has not been the case in my personal clinical experience.

Anecdotally speaking, my experience suggests that temporary tattoos would accelerate the shift from self-harm to positive self-expression but leave no skin injury. Temporary tattoos appear to be helpful but may be less successful in those with multiple episodes of NSSI. In such cases, we requested that patients place a temporary tattoo next to the site of the injury with each episode of self-harm. I hoped that the comparison would shift coping in favor of the tattoo. I found that in two cases, patients stopped self-harm along with loss of interest in the temporary tattoos. One patient became pregnant, the other decided that she no longer wanted to live in the ways that

Table 3: Choosing the Right Patient — Temporary Tattoos

- Select patients who have a history of non-suicidal self-injury (NSSI) with cutting or burning themselves, and suggest that temporary tattooing might be an alternative choice based on the experiences with other teenagers. Suggest that tattooing improves self-esteem, attracts interest of other peers, and can be used to express worries, successes, and hopes. Note that temporary tattoos can be frequently changed to deal with new situations and avoid scarring and permanent skin damage.
- Discuss the four factors and addictive issues that promote self-harm and ways that the temporary tattoos might address them: internal emotional regulation, external emotional regulation, social acceptance, and sensation seeking. Discuss how the temporary tattoo might be a distraction from the addictive elements of self-harm.
- Explain the rationale for temporary tattoos to parents or guardians in terms of it being a safer coping alternative to self-harm.
- Explain the temporary tattoo plan to therapists and staff. (The January 2015 AACAP News article available online to Academy members and to others by request provides support for the use of this technique).
- Provide several nontoxic markers in the colors of the teenager's choice for drawing tattoos. Also provide if possible a variety of temporary skin decals for use. Ask the teenager to draw a tattoo in your presence, so that its value can be reinforced. Replace the markers and colors on request and as needed.
- Review with the teenager in follow-up visits the ways that the temporary tattoo is dealing with the issues in item 2, and reinforce successes.
- If a teenager harms him or herself while having temporary tattoo markers, review the triggers for the injury and the reason that the temporary tattoo was not used. Have the teenager draw a tattoo or place a skin decal next to the site of the self-harm and discuss its enhancing benefits.
- Prevent parents or staff from taking away the markers for fear of them causing self-harm, because they have plastic edges. Point out that teenagers can find items with similar cutting options, and that taking away the markers reinforces the wrong message: that teenagers cannot make choices to manage their body safely.
- Do not give up. For teenagers who have a history of repeated self-harm, discussions about each self-harm incident trigger and the repeated application of the temporary tattoo are often necessary to win acceptance of it as a substitute.

had required self-harm to manage daily experiences. Practical approaches for using temporary tattoos and selecting patients are presented in Tables 2 and 3.

Psychoeducation

The experience of self-harm is often the subject of inaccurate information, particularly when it supports this behavior as a stress management tool. In addition, a parent, a peer, or an adult who has a close relationship with someone who engages in self-injury may want to have rapid access to reliable information about this behavior for their own knowledge or as a part of obtaining help. The website http://www.nssiresource.com provides an introductory discussion of self-harm for patients, parents, and professionals.

Putting It All Together

Combining diagnosis, results of OSI, screen, treatment modalities, and impact on self-harm can form the basis for a specific NSSI/DSH treatment plan. An example of a treatment/management plan is presented in Table 4. This format can be helpful for improving the understanding and management of NSSI and can help provide encouragement and guidance for patients, parents, and the mental health team.

Future Directions

Cognitive bias modification strategies that train patients to desensitize themselves to addictive cues have been reported for the treatment of alcoholism and also smoking.[22,23] These strategies could be helpful in treating the addictive component of NSSI as well. There are also several new approaches being investigated, including interpersonal therapy for depressed adolescents,[24] and the nine-session treatment of NSSI in young adults (see "Treatment for non-suicidal self-injury in young adults," ages 18-29[25]) that is being studied for its efficacy, feasibility, and acceptability.

Table 4: NSSI Deliberate Self-Harm Treatment Plan

- ☐ Date of Plan:
- ☐ Number of NSSI in the current month:
- ☐ Number of NSSI in the previous month:
- ☐ % Increase/decrease
- ☐ Location:
- ☐ Implement:
- ☐ Preferred time of day:
- ☐ Preferred location on body:
- ☐ Usual triggers:
- ☐ Usual compulsive thoughts prior:
- ☐ Interventions (list; include use of temporary tattoos)
- ☐ Summary of last month (treatment effects and changes to be made)
- ☐ Favorite tattoo (affix or draw on treatment plan):
- ☐ Strategies to address:
  - ☐ Internal emotional regulation:
  - ☐ External emotional regulation:
  - ☐ Social influence:
- ☐ Strategy to address:
  - ☐ Sensation seeking:
  - ☐ Addiction issues:
- ☐ Cognitive bias training:
- ☐ Other

Take Home Summary

Non-suicidal self-injury (NSSI) is a common self-destructive coping mechanism for distressed teenagers. A new assessment method, the OSI, and a new coping tool, temporary tattoos, offer opportunities to supplement our understanding and treatment of self-harm behaviors.

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