Nonsuicidal Self injury in Adolescents

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ABSTRACT

Nonsuicidal self injury (NSSI) is more common in adolescent and young adult populations than previously thought. Although it is important to assess the associated risk of suicidal behavior, NSSI is generally used to cope with distressing negative affective states, especially anger and depression, and mixed emotional states. Although previously believed to be a characteristic of severe psychopathology, it now appears that NSSI is associated with a wide variety of externalizing and internalizing conditions. Effective treatment is grounded in a collaborative understanding of the function of the NSSI for the adolescent. Affective, psychosocial, biological and cognitive factors are addressed through psychotherapeutic, psychopharmacological and skill-building strategies appropriate for each individual.

by JOHN PETERSON, MD; STACEY FREEDENTHAL, PhD; CHRISTOPHER SHELDON, PhD; AND RANDY ANDERSEN, LCSW

Dr. Peterson is Director, Child/Adolescent Psychiatry, Denver Health Medical Center and Associate Professor, Department of Psychiatry, University of Colorado, School of Medicine, Denver, Colorado; Dr. Freedenthal is Assistant Professor, Graduate School of Social Work, University of Denver, Colorado; Dr. Sheldon is Assistant Professor, Department of Behavioral Health, Denver Health Medical Center, Denver, Colorado; and Mr. Andersen is with Department of Behavioral Health, Denver Health Medical Center, Denver, Colorado.

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ADDRESS CORRESPONDENCE TO: John Peterson, MD, Denver Health Medical Center, M.C. 1910, 777 Bannock St., Denver, CO 80204; Phone (303) 436-6680; Fax (303) 436-6686; E-mail: John.Peterson@dhha.org

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INTRODUCTION

Many clinicians have encountered adolescents who have harmed themselves yet denied suicidal intent. In fact, this stressful experience is increasingly common. Recent community studies have found that one-third to one-half of adolescents in the US have engaged in some type of nonsuicidal self injury (NSSI),[1,2] although less recent studies put the rate at 13 to 23 percent.[3] Adolescent self-harming behavior is a considerable problem for clinicians, not only because of the obvious danger of the patient harming him- or herself, but also because of the difficulties in ascertaining whether the teen was trying to die.

NSSI most commonly includes cutting or burning oneself without suicidal intent.[4] Other types of NSSI include hitting, pinching, banging or punching walls and other objects to induce pain, breaking bones, ingesting toxic substances, and interfering with healing of wounds.[5] NSSI typically begins in mid-adolescence.[5] Adolescents who injure themselves are often impulsive, engaging in self harm with less than an hour of planning.[6] They commonly report feeling minimal or no pain.[7] Once started, self injury seems to acquire addictive characteristics and can be quite difficult for a person to discontinue.[8] While some studies indicate that NSSI is more frequent in girls than boys,[10] other studies indicate that there are no consistent gender differences.[3]

Although distinct from suicidal behavior, NSSI frequently occurs in adolescents who, at other times, have contemplated or attempted suicide.[9,10] As a result, there is a significant risk of suicide and suicide attempts among teens that engage in NSSI. One recent study found that 70 percent of teenagers engaging in NSSI had made at least one suicide attempt and 55 percent had multiple attempts.[17] However, the nonsuicidal and suicidal behaviors serve distinctly different purposes. Some adolescent inpatients report hurting themselves specifically to stop suicidal ideation or to stop themselves from actually attempting suicide.[8] Consequently, Favazza[11] conceptualizes self-injurious behaviors without suicidal intent as "a morbid form of self help."

A CASE EXAMPLE

Tina was a 15-year-old girl whose boyfriend recently broke up with her. On the way home from school, she saw him kissing another girl. When she arrived home, she immediately went upstairs to her bedroom, locked the door, and cut herself on the wrist several times with a razor blade. Although she wore long sleeves to dinner that evening, her mother spotted the wounds and brought her daughter to the emergency room, saying her daughter had tried to kill herself. Tina, however, stated emphatically that she did not want to die. "I cut myself because it made me feel better," she said.

A consulting psychiatrist interviewed Tina in the emergency room. A nurse had warned the psychiatrist that Tina was "borderline" and "gamey," stating, "She just cut herself for attention. Don't let her manipulate you." However, after an extensive interview with Tina, there were insufficient criteria to merit a diagnosis of borderline personality disorder. In fact, despite her obvious problems coping with distress, Tina did not meet the criteria for any major mental disorder in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (*DSM-IV-TR*).

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CHARACTERISTICS OF ADOLESCENTS WITH NSSI

Until recently, NSSI was seen as primarily associated with the following three specific psychiatric diagnostic categories: developmental disabilities, eating disorders, and borderline personality disorder (BPD). NSSI occurs in roughly 15 percent of children with developmental disabilities, especially profound and severe mental retardation.[12] Among adult women, NSSI accompanies up to 35 percent of those diagnosed with anorexia nervosa, bulimia nervosa, and other eating disorders;[13] female adolescents with anorexia nervosa also tend to engage in NSSI more than those without the eating disorder.[14] Repetitive NSSI is so common among people with BPD[15] that BPD is the only clinical diagnosis in the *DSM-IV-TR* for which self injury, whether suicidal or nonsuicidal, is a symptom.[16] However, no studies have examined the prevalence of NSSI among male or female adolescents exhibiting borderline personality symptoms.[17]

Recent research calls into question the presumption that adolescent NSSI is primarily limited to people with developmental disabilities, eating disorders, or borderline personality disorder. Psychiatric conditions that are specifically associated with NSSI in adolescents include internalizing disorders (primarily depression, but also posttraumatic stress disorder and generalized anxiety), externalizing disorders (including conduct disorder and oppositional defiant disorder), and substance abuse disorders.[3,17] It has been

suggested that there is a strong link between NSSI and maltreatment in early childhood, especially child sexual abuse. However, a recent meta-analysis found only a modest correlation between child abuse and NSSI, and this was due to the association of both features with psychiatric risk factors.[26]

A sizeable percentage of adolescent and young adults who engage in NSSI—almost half—may not meet criteria for depression, anxiety, eating disorder, substance use disorder, or other major psychiatric disorders.[18] In fact, NSSI appears to be a common nonspecific psychiatric symptom found in a variety of disorders as well as being found in adolescents without a specific psychiatric diagnosis. It seems more useful to understand NSSI in functional terms rather than as a distinct diagnosis since a separate diagnostic category is not well supported by current research findings.

Some adolescents who engage in NSSI have elevated rates of emotional reactivity, intensity, and hyperarousal.[19] Interpersonal processes associated with NSSI include increased use of avoidant behavior and decreased emotional expressivity.[20,21] Adolescents who self harm are more likely to report being bullied by peers and experiencing discomfort regarding their sexual identity.[10,22] A recent British study also found an association with Goth subculture and self-harming behavior among teens.[23] Knowledge of self harm in peers is a risk factor for NSSI[22] due to an apparent contagion effect,[24] and there has been an increase in publicity about this behavior. A variety of internet websites and chat rooms provide information and even encourage self-harming behavior.[25]

CASE EXAMPLE, CONTINUED

Tina explained to the psychiatrist that she cut herself because it was "calming." She said that a year ago she first started pinching herself as a way to hurt herself. One day she saw her father's razor blades and started cutting herself on her arms. "It helps me chill," she said. "My mind slows down, I stop crying, and I just feel better." She said the razor slicing into her skin did not hurt badly—just enough for her to "feel alive." She felt so much better after cutting herself that afternoon that she was able to concentrate on her homework and not think any more of her ex-boyfriend and the girl he was kissing.

FUNCTIONS OF NONSUICIDAL SELF-INJURIOUS BEHAVIOR

The major purpose of NSSI appears to be affect regulation and management of distressing thoughts.[26] For example, in one study of high school students, 55 percent of self injurers indicated their reason for NSSI was, "I wanted to get my mind off my problems," while 45 percent of adolescents endorsed, "It helped me to release tension or stress and relax."[10] When the teenager feels overwhelmed by negative feelings, NSSI can be an effective, although harmful, strategy to stop or reduce these negative thoughts and emotions.

Experimental data support the regulating aspect of NSSI. Adolescents with NSSI demonstrated higher levels of physiological arousal during a stressful task compared with adolescents without NSSI.[27] This finding is consistent with primate research. For example, monkeys engaging in self injury, usually self biting, have a blunted cortisol response to mild stress when compared with controls.[28] After experiencing a stress-induced escalation in heart rate, these monkeys appear to use self harm as a coping strategy to decrease arousal. In turn, the self harm is associated with a rapid decrease in heart rate.[28]

NSSI may also regulate emotions by increasing the affective experience. The teen may have the subjective experience of being emotionally "numb" or "empty" or feeling disconnected with others. NSSI may help a teenager to gain a sense of control, to feel excitement, or to stop dissociative experiences.[8,29]

TABLE 1. Functions of nonsuicidal self injury

AFFECT REGULATION • Anxiety • Anger • Frustration • Depression
CHANGE COGNITIONS • Distraction from problems • Stopping suicidal thoughts
SELF PUNISHMENT
STOP DISSOCIATION
INTERPERSONAL • Secure care and attention • Fit in with peers

It also might give the adolescent the experience of being "real."

NSSI may serve interpersonal functions for the adolescent.[26] NSSI might elicit positive reinforcement in the form of attention from others, although Gratz[29] noted that many who injure themselves do so in private and do not tell others. NSSI might also help the teen to avoid difficult situations. The threat of self harm might cause adults or peers to decrease interpersonal pressure or to stop attempting to get the teenager to complete his or her homework, chores, or other tasks.

The interpersonal functions that NSSI sometimes serves can challenge the therapeutic alliance. Clinicians can experience a wide range of negative reactions (sometimes described as a form of countertransference) to adolescents engaging in self injury. Terms such as *gamey*, *manipulative*, *attention-seeking*, or *borderline* are sometimes used by frustrated clinicians to describe self injurers. These terms can indicate the need for a more therapeutic perspective by consulting with a colleague so that clinical decisions are not based on frustration.[30] It is helpful to remember that impulsive NSSI in adolescents generally stems from emotional pain, not malevolent

TABLE 2. Assessment and treatment of nonsuicidal self injury in adolescents

1. Complete a comprehensive diagnostic evaluation, including the following:
- Medical history and physical examination
- Identification of comorbid psychiatric illness
- Assessment of suicide risk
- History of physical and sexual abuse
- Substance abuse history
- Evaluation of risk factors
- Evaluation of family functioning and social supports

2. Conduct a functional behavioral analysis of the NSSI identifying the following:
- Antecedents (situations/stressors leading to self harm)
- Behavior characteristics (e.g., frequency, intensity, duration of NSSI)
- Consequences (e.g., emotional relief, care and attention from others)

3. Develop a therapeutic alliance based upon acceptance and validation strategies

4. Treat primary psychiatric disorders first

5. Target behavioral interventions for NSSI based upon behavioral analysis and need for the following:
- Affective language skills
- Self-soothing skills
- Communication skills

6. Provide psychoeducation for the patient and family

7. Initiate cognitive problem-solving skills treatment

8. Monitor response of behavioral interventions for reducing NSSI

9. Consider family therapy and dialectical behavior therapy (DBT)

intentions, and that the teenager needs more effective skills to replace self injury. Table 1 lists the functions of NSSI.

CASE EXAMPLE, CONTINUED

The psychiatrist asked Tina what other actions she could take to feel calmer and distract herself from her emotional pain. "I don't know," she said, shaking her head. The psychiatrist asked her what she had done before she first discovered the effects of harming herself. "I don't know," she said again. "I never hurt then like I do now."

TREATMENT STRATEGIES

Self injury in adolescence has only recently been recognized as a commonly occurring phenomenon. Consequently, there are few randomized, controlled trials for the specific treatment of NSSI in adolescents. In adults, the therapeutic intervention with the most research demonstrating efficacy in reducing self-harming behavior is dialectical behavioral therapy (DBT).[32,33] DBT uses a combination of individual and group therapy to teach skills in emotional regulation, interpersonal effectiveness, distress tolerance, core mindfulness, and self management. The intensive treatment requires the individual clinician to be on call for these patients at all times. DBT has been adapted for adolescents with features of borderline personality,[34] with the additional expectation that the group therapist is on call at all times for the parents. The clinical and financial demands of DBT have led to applications of less intensive treatments to reduce self harm, but these treatments are still under study.

Treatment is based on a thorough psychiatric evaluation, with a focus on acute safety issues, suicidal risk, and clarification of comorbid psychiatric conditions. Treating NSSI involves determining the needs that the behavior fulfills and helping the adolescent devise other, healthier ways to meet those needs. For example, if NSSI helps a teen to calm down, what other techniques might provide the same result? In the case of Tina, the psychiatrist might recommend that she develop mindful awareness skills, practice deep breathing exercises, use ice on her wrist to produce a physical distraction, talk to a friend about her emotions, or exercise strenuously. Improving affective language and other communication skills can be key in reducing NSSI.[31] Since adolescents engaging in NSSI often have poor problem-solving abilities,[27] it is important to improve these skills as well.

Involving family in the support and treatment of adolescents with NSSI is also very important. Poor communication with family has been associated with suicidal behavior in some adolescents.[35] Improving the family's understanding of NSSI can be useful in decreasing conflicts. It can be helpful for the family to learn de-escalation strategies and expand listening and communication skills. Family members can also help with safety plans and practicing problem solving skills.[30]

Pharmacological treatment of NSSI should primarily focus on any underlying psychiatric disorders. Currently, there are no specific medications approved for the treatment of NSSI. Since depression and anxiety often accompany NSSI, identifying and treating these disorders should be a top priority. Concerns about an increase in suicidal thoughts with adolescents using antidepressant medication[36] should be reviewed with teens and their parents. While the protective effects of antidepressants appear to outweigh the risk of increased suicidal thoughts,[37] medication use should be monitored regularly.

Additional precautions are helpful when prescribing medications for self-harming adolescents. Prescribing larger quantities of potentially lethal medication should be avoided and benzodiazepines should be used cautiously due to the potential for behavioral disinhibition.

Table 2 describes assessment and treatment of NSSI in adolescents.

CASE EXAMPLE, CONTINUED

Several months later, Tina reflected about the changes she had made. Being a teenager was challenging, and when she experienced emotional pain, she still considered doing something physical to make it stop. But Tina had learned other things that helped, and she no longer felt like she had to act on her impulses. She knew that cutting might stop the feeling for awhile, but it would not solve her problems. She could talk to herself, to her family, and to her friends more than she could before. Tina felt like she was on the right path for her.

CONCLUSION

Self harm among adolescents is common and the rate may be increasing. While many adolescents with NSSI may not have severe psychopathology, teenagers presenting with self-harming behaviors should have a thorough psychiatric assessment that includes screening for suicidal ideation and risk factors. Family and other interpersonal supports are important in formulating and implementing treatment recommendations. Pharmacological treatment should focus on treating underlying psychiatric disorders. Psychotherapeutic treatment should be recommended to assist the adolescent in understanding NSSI and utilizing more adaptive coping strategies. Adolescents with more severe and chronic symptoms should be referred to a DBT program when available.

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