Nonsuicidal Self-Injury and Personality Disorders

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Objectives

- Describe the relationship between nonsuicidal self-injury (NSSI) and personality disorders, especially borderline personality disorder (BPD)
- Describe the possible etiologies of NSSI, including psychological and neurobiological mechanisms
- Identify risk factors for NSSI
- Define contagion and how it may relate to NSSI
- Become more familiar with general clinical approaches to patients with NSSI
- Describe therapeutic and pharmacologic interventions

Definition of Nonsuicidal Self-Injury (NSSI)

- Deliberate self-directed tissue injury inflicted without conscious intent to kill oneself
**Definition of NSSI**

- Cutting is the most common form, followed by burning
- Other methods include scratching, carving, and self-hitting
- 70% of repeat self-mutilators use multiple methods

**Epidemiology**

- NSSI likely increasing in youth
- 15% or more prevalence during adolescence
  - Compared to 4% general adult population
  - 50% of adolescent inpatients engage in NSSI
- Peak in mid to late adolescence
  - Age of onset typically 13 or 14 (peaking at 16)
  - 90% give up behavior as young adults (most often resolves spontaneously)
- Roughly 1 in 5 Ivy League students
  - Greater than 1 in 10 are repeat self-injurers

**Why Adolescents?**

- Later development of brain circuits (pruning and myelination) involved with emotion, judgment, and inhibitory control may explain the heightened propensity of adolescents to act impulsively and to ignore the negative consequences of their behavior
### Risk Factors for NSSI

**Personality Disorders**
- Core Personality Disorder traits increase risk
  - Interpersonal stress
  - Impulsivity
  - Self-criticism/perceived criticism of others and shame (cognitive)
  - Emotional dysregulation

**Borderline Personality (BPD)**
- Self-mutilation DSM criterion
- Over 70% self-injure
- Half of adolescent inpatients with NSSI meet criteria for BPD
- Adolescent NSSI, especially repetitive and long-lasting, may be key precursor to adult BPD
- 30% of adults with BPD self-injured by age 17
- Adverse childhood experiences, especially emotional and sexual abuse, often reported in BPD
- However, 50% or more of NSSI not in context of BPD

**Adolescence to college age**
- Caucasian ethnicity
- Female gender
  - Especially age 15-24
  - F:M = 1.5 to 3
- History of self-injury
Risk Factors for NSSI

- Anxiety and depression
  - Risk may double when starting with high doses of antidepressants
- Eating disorders
  - 25% engage in NSSI
  - Especially bulimia
- Substance abuse
- Conduct problems

Risk Factors for NSSI

- History of abuse
  - Sexual or emotional in over half of self-injurers
- Family turmoil
  - Up to 90% of self-injurers meet criteria for at least one psychiatric disorder, most commonly mood

Goth Subculture

- Study from Scotland published in 2006
  - Young, Sweeting, and West in BMJ
- Self harm prevalence of 53%
- Elevated rates of drug use and suicide attempts
- Modeling versus selection
Functions of NSSI

- Rapid but temporary relief from intense negative thoughts or feelings
- Limited coping strategies
- Unstable interpersonal relations
- Would rather feel physical pain

Functions of NSSI

- Communication of distress/emotion
  - Direct anger onto oneself that cannot be expressed at others
  - Injury connected with care
- Punishment of self (self-directed anger)
- Peer bonding and identification
Functions of NSSI

- Coping with dissociation
- A means to stop suicide ideation
- Way to feel in control
- Make others feel as helpless and powerless as the patient usually does
- But usually not a form of manipulation
- Often multiple intentions within an episode

Functions: Learning Theory

- Positive reinforcement
  - *Induces* pleasant or relaxed state
    - Possibly from “deserved” punishment
  - *Generates* help/attention from others
  - *Expression* of anger
- Negative reinforcement
  - *Reduction* of unpleasant emotions
  - *Avoidance* of distressing thoughts

Addiction to NSSI

- Reinforcing aspects of tension-release
  - Positive effects short-lived then there is mounting tension
  - Recurrent failure to resist impulses
  - Over time the frequency and severity may increase in order to achieve the same effect
Addiction to NSSI

• May progress to Deliberate Self-Harm Syndrome (DSH)
  • Favazza in Self-Injurious Behavior in College Students from Pediatrics June 2006
  • Brooding about self-harm
  • Self-identification as a “cutter” or “burner”
  • At least 50 episodes of NSSI
  • Scars may provoke relapse

DSM-5 Conditions for Further Study: Nonsuicidal Self-Injury

• In the last year, 5 or more days, damaged surface of body
• Expectation of relief, resolution of interpersonal difficulty, or positive feelings

DSM-5 Conditions for Further Study: Nonsuicidal Self-Injury

• Associated with interpersonal difficulties or negative feelings or thoughts immediately prior to act, or constant thinking about the behavior
• Not better explained by psychosis, autism, intellectual disability, delirium, substance, etc.
Behavioral Contagion

- An increased tendency for a behavior to be performed when socially related persons have already performed it
- Well-established for suicide
  - Also demonstrated in delinquency, aggression, substance use, and sexual risk behavior
- NSSI contagion demonstrated in multiple settings for adolescents
  - Correctional institutions, psychiatric units, and a junior high

Modes of Transmission

- Direct contact with self-injurers, often peers or family
- Direct or indirect contact through the internet
  - Over 400 websites
  - Greater time online social networking promotes NSSI
- Celebrities/Media

Suicide Risk

- By definition, NSSI does not involve conscious suicidal intent
- Self-cutting is rarely a cause of suicide (1-2%) and less lethal than other methods (10% of attempts)
Suicide Risk

- NSSI is one of the strongest risk factors for suicide attempts and completion
  - 5-fold increase suicidal ideation, 10-fold attempts, 30-fold completion
  - 50% of self-injurers have attempted suicide at least once compared to 6% attempts in general adolescent population

- Multiple methods NSSI associated with greater risk of suicide attempts
- Self-mutilation in BPD doubles risk of suicide
- NSSI and suicidal ideation strongest risks for suicide attempts in teen bipolar
- Over 40% of college students who engage in NSSI also report suicidality
- NSSI strongest predictor for rehospitalization in depressed adolescents

Neurobiology

- Opiate system
- Serotonin system
- Dopamine system
Opiate system

- Higher pain thresholds and stress-induced analgesia in BPD
- Increased activity of Dorsal Prefrontal Cortex with deactivation of anterior cingulate and amygdala with cutting
- Addictive qualities including post-cessation withdrawal (dysphoria)
- Cutaneous NSSI resembles acupuncture

Serotonin System

- Decreased 5-HT levels linked to impulsive, aggressive and suicidal behavior
- Self-injury is usually an impulsive act, with half thinking of it less than one hour beforehand

Dopamine System

- Self-injury seen in Lesch-Nyhan Syndrome, and sometimes Tourette’s
- Self-biting behaviors may be elicited by stimulants
General Clinical Approaches

• Look/Listen for signs and symptoms
  • Scars, bruising on skin exam
  • Wearing long-sleeves or pants in hot weather
  • Excessive time at home spent in bathroom or bedroom/isolating self
  • Sudden shifts in mood
  • Parents should look for hidden stashes of blades or bandages, missing sharp instruments, or blood on clothing
    - Taking away preferred method of self-harm may reduce (ritualistic)

General Clinical Approaches

• Ask directly about self-injury!!!
  • Rates of detection and treatment are low
  • In survey of self-injurers only 3.29% of their physicians knew and in 36% of cases no one else knew
  • If patient self-injures, then proceed calmly and nonjudgmentally with interview

General Clinical Approaches

• Realize that for the patient cutting may feel like a solution and not a problem
  • Stages of Change model
  • “Do you think that self-injury is a problem for you?”
  • “What would have to happen for you to think this is a problem?”
General Clinical Approaches

• Find out why the patient self-injures and use alternatives that achieve same goal
  • Identify core problems and triggers
  • Identify the social context: “How did you learn to hurt yourself? Do you injure yourself alone?”
  • “What are you trying to communicate (and to whom) when you self-injure?”
  • Feeling strong, in control: “Who’s in control of your life—the cutting or you?”

General Clinical Approaches

• Highlight the aspects of self-injuring that are distasteful to the patient
  • Scars, secrecy, shame, isolation, stigma, ED/hospitalizations, wound infection, “being a follower,” potential accidental death
  • Use terms such as “self-mutilation,” with negative connotations, and avoid normalizing by calling “coping” or “self-medication”

General Clinical Approaches

• Warn about potentially addictive nature of self-injuring
  • Early intervention to prevent escalation
• Assess overall suicide risk
• Inquire about substance use – consider drug screen
Therapeutic Approaches to NSSI

• Motivational Interviewing
  • Collaboration/partnership between patient and therapist
  • As the therapist, do listen with compassion but do not give too much advice
  • Assess patient recognition of problem/motivation and readiness to change
  • Problem-solve barriers to change (including addressing ambivalence)
  • Plan steps to achieve goals

Therapeutic Approaches to NSSI

• Psychotherapy is first-line treatment
• Need to understand the antecedent and consequent thoughts, feelings, situations, and triggers related to NSSI
• Cognitive restructuring
• Behavioral interventions

Therapeutic Approaches to NSSI

• Skills training
  • Problem-solving, distress tolerance, assertive communication
  • Journaling, mindful breathing, muscle relaxation, exercise, communicating verbally with others, listening to music, visualizing pleasant scenes
  • Alternative coping strategies to soothe or manage anxiety and tension (or at least distract) – “substitute behaviors” may include snapping a rubber band or rubbing ice against skin (discomfort without injury)
Therapy: Dialectical Behavior Therapy (DBT)

- Direct and sustained effects for individuals with BPD and NSSI
  - At least 7 well-controlled trials with different patient populations including adolescent inpatients, prisoners, outpatient adults
  - Decreases in the percentage of patients with self-inflicted injuries, number of self-inflicted injuries, and medical risk of injuries

Therapy: Cognitive Behavioral Therapy (CBT)

- Effective for treatment of self-harm in randomized controlled trial
  - Outpatient setting in Netherlands
    - Approximately 40 patients in each treatment group
    - 90% women
    - 12 sessions
  - At 9 months, the number of self-harm episodes in the previous 3 months declined from 14.4 to 1.2 in the CBT group
    - 11.6 to 4.6 in usual treatment group; P<.05

CBT Assessment of NSSI

- Address cognitive distortions
- “Self-Injury Log” or “Impulse Control Log”
  - Chart the antecedents, behavior itself and consequences of self-injury (or not self-injuring) in attempt to connect thoughts, feelings, and behaviors
Pharmacotherapy

- Medications target the neurotransmitter systems that likely contribute to self-injury

Pharmacotherapy

- Medications second-line treatment in most instances
  - First treat any comorbid mental conditions
  - No FDA-approved medications for NSSI
  - Probably best to avoid benzodiazepines
  - 1) Antidepressants
    - Fluoxetine best-studied
  - 2) Atypical Antipsychotics
    - Olanzapine may be best-studied
  - 3) Consider naltrexone, clonidine, or mood stabilizers

Combination of Medication and Therapy

- Adding fluoxetine or olanzapine to DBT did not add any benefits compared to DBT alone
NSSI: Summary Overview

• While NSSI is common in BPD, it is not pathognomonic for BPD.
• NSSI is common and may be increasing in adolescents.
• There are a number of known risk factors for NSSI and NSSI may be a risk factor for suicide attempts and completion.
• NSSI has a number of psychological functions and can be “contagious” and/or addictive.
• Therapy is first-line treatment, especially DBT and possibly CBT.
• The serotonin, opiate and dopamine systems have been implicated, and medications that target these systems have potential benefit.

Resources/References

• S.A.F.E. (Self-Abuse Finally Ends)
  • www.selfinjury.com
• To Write Love On Her Arms
  • www.twloha.com
• Repetitive Self-Injurious Behavior: The Emerging Potential of Psychotropic Interventions by Villalba and Harrington
  • www.psychiatrictimes.com
• Self-Mutilation and Pharmacotherapy
  • Psychiatry 2005 October
  • http://psychiatrymmc.com