

Overview of assessment and treatment of non-suicidal self-injury among adolescents

Jessica A. Garisch^{1, 2}, Marc S. Wilson¹, Angelique O'Connell^{1, 2}, Kealagh Robinson¹

¹ Victoria University of Wellington, ² Child and Adolescent Mental Health Service, Capital and Coast District Health Board, New Zealand

Non-Suicidal Self-Injury (NSSI) is the direct deliberate destruction of bodily tissue, which is not socially sanctioned, and occurs without suicidal intent. NSSI is a common behaviour among young people within Aotearoa New Zealand, and internationally. About one-third to half of secondary school students have engaged in NSSI (Wilson et al., 2016; Garisch & Wilson, 2010), and whilst the figure among adolescents who attend mental health services in New Zealand remains unknown it is likely to be considerably higher. In spite of being a common behavioural concern among mental health clients, there is little empirical research on effective treatment. In particular, there is a paucity of research into effective treatment of adolescent NSSI; a gap that requires remedy given the high prevalence of NSSI and its association with many subsequent maladaptive outcomes, including suicide. The current paper provides background information on NSSI, information on the assessment of NSSI such as what to include in an assessment interview and possible psychometric instruments, and outlines common strategies and challenges in treatment with adolescents.

Keywords: NSSI, Self-Injury, Assessment, Treatment

Non-suicidal self-injury (NSSI) is the direct, purposeful damage to body tissue, without suicidal intent. These behaviours are of low-lethality (e.g., cutting), and are not condoned by a person's cultural group. This article is intended as a summary of adolescent NSSI assessment and treatment, and is specifically written for a New Zealand audience, although other readers are likely to find the content useful. This article is intended for a broad range of readers, including school nurses, pastoral care staff, doctors, crisis workers, and mental health clinicians.

Background to NSSI

Prevalence

Historically, there has been little data on the prevalence of NSSI, with larger data sets only becoming available in the late 1990's. Prevalence data prior to this time regarding self-injurious behaviour primarily drew from adult hospital admission rates (where only specific cases will present, as most people do not seek medical attention for their self-injury (Baetens, Claes, Muehlenkamp, Grietens & Onghena, 2011)) and specific samples (i.e., the military). These prevalence rates were usually based on self-harm behaviour, rather than NSSI. Self-harm is a broader term inclusive of suicidal and non-suicidal self-harm behaviours, including self-poisoning. In this paper we discuss NSSI specifically. We use the term 'NSSI' and 'self-injury' interchangeably, for ease of readership.

Adolescents appear at greatest risk of engaging in NSSI. This behaviour typically begins in early adolescence, with prevalence rates dropping sharply in early adulthood (Plener, Schumacher, Munz, & Groschwitz, 2015). Research indicates that a significant proportion of young people in New Zealand and internationally engage in NSSI. Self-report survey studies conducted within the Wellington region indicate that between one fifth and one quarter of community sample adolescents aged 12 – 15 have engaged in self-injury at some point (Wilson

et al., 2016), with this figure increasing to up to 50% of adolescents by school leaving age (Garisch & Wilson, 2015).

As may be expected, adolescents accessing mental health care appear to have higher prevalence rates of NSSI. International rates of NSSI among clinical adolescent samples indicate a prevalence of 40% or higher (DiClemente, Ponton, & Hartley, 1991). Within New Zealand clinical settings, analysis of file information of clients within an Auckland-based Child and Adolescent Mental Health Service found that 48% of presenting adolescents reported lifetime engagement in deliberate self-harm (a broader term encapsulating both suicidal and non-suicidal self-harm; Fortune, Seymour & Lambie, 2005). However, it is important to bear in mind that as Fortune and colleagues' (2005) study was based on analysis of file information, self-harm was not necessarily the presenting problem and therefore likely underestimates prevalence in this group. As such, rates of NSSI among adolescents in New Zealand mental health services remains unknown, however the prevalence is likely to be significantly higher than in community samples. Given this, many youth who present to services are likely to either have a history of NSSI or currently engage in the behaviour, making it an important part of assessment and treatment planning.

NSSI and comorbid difficulties

NSSI is associated with many mental health problems including mood disorders, anxiety disorders, eating disorders, trichotillomania, and personality disorders (Jacobson & Gould, 2007; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006), most notably borderline personality disorder (Brickman, Ammerman, Look, Berman & McCloskey, 2014). Some individuals who engage in NSSI will not have a diagnosable mental health disorder, whilst others will have multiple diagnoses (Wilkinson, 2013); presentations of NSSI are highly heterogeneous.

Research indicates that NSSI is associated with increased

risk of suicidal behaviours, and this risk increases with having engaged in a greater number of different types of NSSI (Nock et al., 2006; Turner, Layden, Butler, & Chapman, 2013). One of the functions of NSSI identified in the Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009) is 'Anti-Suicide'. This refers to when NSSI is used to manage and avoid urges to suicide. NSSI may provide a mechanism for managing intolerable emotional distress in the moment, including suicidal ideation. Paradoxically, NSSI may lessen barriers to suicidal behaviour over time, by habituating individuals to the mechanisms that may operate to dissuade someone from suicidal behaviours, such as pain and the sight of blood. Hence whilst NSSI may be utilised as a means of avoiding suicidal behaviours *in the moment*, it increases *subsequent* suicide risk. More research is required to better understand the relationship between NSSI and suicidality.

NSSI is also linked to worsening emotion regulation over time (Wilson et al., 2016), suggesting that there is something about engaging in NSSI that is likely to lead to poorer ability to manage emotional distress. Although research in this area is in its early stages, this is likely due to several reasons. Ongoing engagement in NSSI means that the person has less practice at utilising other alternative, healthier coping strategies (e.g., seeking social support). Additionally, engaging in NSSI may reduce an individual's tolerance of emotional distress as they have begun to avoid the scenarios that trigger their NSSI (which are likely to be scenarios that illicit strong emotions). Through avoidance of emotion-evoking stimuli, the individual becomes more sensitive to these stimuli (i.e., dishabituation). NSSI is also linked to loss of social connectedness over time (Burke, Hamilton, Abramson, & Alloy, 2015). It is within close social relationships that adolescents develop and engage in emotion regulation strategies such as seeking social support, and expressing their distress to others (Morris, Silk, Steinberg, Myers, & Robinson, 2007). These factors indicate that NSSI impacts negatively on an individual's social and emotional functioning.

NSSI disorder: Area for further study

Prior to the DSM-5, NSSI featured primarily as a diagnostic criterion for borderline personality disorder. However, there is good reason to think that NSSI may occur in the absence of this particular personality disorder (see Brickman, Ammerman, Look, Berman & McCloskey, 2014; Glenn & Klonsky, 2013). A non-suicidal self-injury diagnosis was proposed in the development of the most recent Diagnostic and Statistical Manual of Mental Disorders, the DSM-5 (American Psychiatric Association, 2013). The proposed diagnostic criteria includes having engaged in five or more episodes of NSSI in the past year, where NSSI functions to provide relief from interpersonal difficulties or unwanted thoughts or emotions, and the behaviour negatively impacts on life. However, it currently falls under an area for further study. Research investigating the utility of this diagnosis suggests that it would have merit in distinguishing a group of clients with more severe psychopathology as compared to clients who engage in NSSI but do not meet the NSSI diagnosis, and that the proposed diagnosis identifies a subset of clients distinct from borderline personality disorder (e.g. see Zetterqvist, 2015).

Theoretical models of NSSI

While NSSI can serve a variety of interpersonal and intrapersonal functions (Klonsky & Glenn, 2009), it is predominantly considered a disorder of poor emotion regulation. The most widely-used model of NSSI is the Experiential Avoidance Modal (EAM) developed by Chapman, Gratz and Brown (2006). The EAM views NSSI (and self-harm; a more inclusive term that does not distinguish between suicidal and non-suicidal self-injury) as an emotional avoidance behaviour that occurs in response to strong emotions evoked by a stimulus. The stimulus can be internal (e.g., a painful memory or negative automatic thought) or external (e.g., an argument with a loved one), and the emotional response can be widely varied (e.g., anger, sadness, shame). The individual is made vulnerable to using NSSI as an emotional avoidance strategy due to one or more factors; 1. Experiencing emotions at a high intensity, 2. Underlying difficulty in self-regulation when experiencing intense emotions, 3. Paucity of skills to regulate their emotions, and/or 4. Poor ability or low threshold for tolerating distress. NSSI becomes negatively reinforced as it quickly and effectively provides an escape from unwanted emotional distress. Over time the strong link between NSSI and emotional relief leads to this behaviour becoming the preferred method of regulating emotional distress, potentially to the exclusion of other coping strategies. This means that the individual may become increasingly reliant on NSSI over time, and any other coping strategies they have may fall into disuse and become less effectively implemented and/or forgotten (see Chapman et al., 2006). The EAM is useful to consider in assessment and treatment, as it identifies areas for building client skills to off-set risk of NSSI, and highlights the fact that NSSI is reinforced and can become habitual over time making early identification and treatment of the behaviour especially important.

Nock and Prinstein (2004) have developed a functional model of NSSI, whereby NSSI is seen as being reinforced via positive or negative stimuli in the interpersonal or intrapersonal environment. Specifically, NSSI is seen as reinforced (and maintained) via one of four contingencies; automatic-negative reinforcement, automatic-positive reinforcement, social-negative reinforcement, or social-positive reinforcement. Automatic-negative reinforcement is when self-injury is functioning to take away a negative internal state (e.g., to reduce a negative emotion). Automatic-positive reinforcement is when self-injury functions to create an internal state (e.g., providing an internal experience when the person otherwise feels numb). Social-negative reinforcement is when NSSI serves to remove an unwanted social stimuli (e.g., allows the person to avoid an unwanted social interaction). Social-positive reinforcement is when NSSI functions to create a desirable social response (e.g., encourages care and attention from others). Empirical data from adolescent inpatients receiving assessment and treatment for NSSI indicates that NSSI indeed does serve these various functions, most commonly automatic-negative reinforcement (Nock & Prinstein, 2004). These various types of functions are useful to bear in mind in assessment and treatment. An individual is more likely to overcome NSSI if the functions of their NSSI are readily understood, and they

are supported to finding alternative healthy ways to get these functional needs met.

Assessment of NSSI

There are several factors to bear in mind when conducting assessment of NSSI. Early identification of NSSI would be supported by having screening of NSSI at all intake assessments. If a self-report survey is utilised for this purpose (e.g. within a screening questionnaire given to clients prior to engaging in a service), it is more effective to ask about multiple methods of NSSI, rather than a single item question. The former strategy yields much higher prevalence rates than the later single-item question (see Muehlenkamp, Claes, Havertape, & Plener, 2012, for a discussion of prevalence associated with different measures). When a referral letter indicates NSSI is a presenting problem, then utilising a self-report measure for screening purposes may be worthwhile. However, bear in mind that NSSI is often a very secretive behaviour, and can be associated with shame, embarrassment, and/or a fear of being stereotyped as manipulative or attention seeking. Given these constraints, self-report measures may not be completed honestly, or may be seen as invasive by some clients.

There are several self-report measures available (see Klonsky & Lewis, 2014, for a review of assessment instruments). The Deliberate Self-Harm Inventory (DSHI; Gratz 2001) has been extensively used in research, and asks respondents how frequently they have engaged in 17 different forms of NSSI, and several additional questions (e.g. whether they required medical attention for any episode of NSSI). The Functional Assessment of Self-Mutilation (FASM; Lloyd, Kelley & Hope, 1997) and the Inventory of Statements About Self-Injury (ISAS; Klonsky & Glenn, 2009) both include a checklist of 'common' types of self-injury, as well as a list of functions for self-injury and respondents indicate how much each function applies to them. Both include several other clinically useful questions, such as the length of time between contemplating NSSI/urge to self-injure and engaging in the behaviour, which provides information on impulsivity. The Ottawa Self-injury Inventory (OTI; Cloutier & Nixon, 2003; available free: <http://insyncgroup.ca/~insyncgr/csi2/wp-content/uploads/publications/OSI-2015-v3.1-Functions.pdf>) is a thorough measure of NSSI, and includes items on historical and current NSSI behaviour, functions of NSSI, addictive features of NSSI, motivation to change the behaviour, and items on suicidality. A screening measure is likely to provide guidance for an assessment interview, but certainly does not provide all the information needed for a client formulation and treatment planning. A face-to-face assessment interview will yield more nuanced information, and provide non-verbal cues regarding any hesitancy to discuss NSSI.

A thorough assessment requires asking a breadth of questions during an assessment interview. These include:

- Gaining a clear history of when the NSSI began and under what context (i.e., common antecedents);
- Whether there has been a period of abstinence from NSSI behaviour (and whether urges to engage in NSSI continued during this period and how they were managed);

- What kinds of NSSI the client engages in (and whether the different types have distinct antecedents and/or functions) as well as implements commonly used to do so (including access to these);
- The location and time of day when a client typically engages in NSSI;
- Where a client chooses to engage in NSSI on their body, and what this means; e.g., in places that are easy to conceal so as to avoid questions;
- Whether clients engage in NSSI in private where they are unlikely to be caught or when there are people around who may witness the NSSI;
- Whether alcohol or substance use accompanies the self-injury;
- Whether the NSSI occurs in a dissociative state;
- How wounds are managed, and what this means; e.g. treating wounds to provide self-care;
- Whether the client discloses their NSSI to a confidante after the episode;
- The emotions, thoughts and behaviours that occur after the NSSI; e.g., intense feelings of shame; negative self-talk, and
- The consequences associated with NSSI

Given that NSSI is most commonly reported among clinical populations, an assessment interview also needs to assess for comorbid psychopathology.

A functional behavioural analysis will provide very useful, and potentially essential, information, and it is helpful to orient clients to this mode of information gathering early on (Linehan, 1993; see also Rizvi & Ritschel, 2014). This involves the following:

- Inviting the client to detail a recent episode of NSSI. It is helpful to outline a 24 hour period, beginning with the day before the episode of NSSI and ending several hours after the episode of NSSI. This allows for distal and proximal antecedents to be identified, as well as immediate and more distal consequences.
- Identifying and exploring the physical (e.g., low energy; sleepless night), behavioural (e.g., choosing to skip a meal, not taking medication), interpersonal (e.g., an argument with a loved one), intrapersonal (e.g., particular memories), emotional (e.g., loneliness) and cognitive (e.g., negative automatic thoughts) antecedents of the self-injury.
- Identifying the frequency, duration and intensity of the self-injury behaviour.
- Identifying the interpersonal and intrapersonal, short term and long term, consequences of the self-injury.

A functional behavioural analysis not only provides the clinician with invaluable information towards a formulation, treatment and ongoing change, it also provides the client with insights into their own behaviour that they may otherwise not have considered. Hence the functional analysis provides an avenue for the client to make changes by eliminating or reducing risk factors for an episode of NSSI, changing their responses to antecedents of their NSSI behaviour, and

identifies opportunities to practice new skills learnt in therapy. A functional analysis also provides opportunity for the therapist and client to explore emotion in session, as the process often elicits strong emotion through the detailed discussion of the client's memory of the NSSI episode. This heightened emotion offers the opportunity to practice emotion regulation skills, whereby the therapist coaches the client to respond to their distress in a healthy and adaptive way. This in-session coaching in emotion regulation is commonly practiced in individual Dialectical Behaviour Therapy (DBT; Linehan, 1993) sessions with clients who self-injure.

Linehan (1993) identifies three critical requirements for utility of the behavioural analysis process: collaboration between client and practitioner involving concurrent use of strategies such as validation; sufficient detail to inform understanding of the life course of the entire NSSI episode; and appreciation that decisions based on the outcome of the analysis may be flexibly updated as necessary.

Assessment and treatment requires sensitivity to the client's experience of particular emotions, especially guilt and shame. Guilt is potentially a useful emotion, as it can motivate people to act in a way that repairs a relationship or transgression. In contrast, shame is often not a useful emotion, and rather than spurring on functional behaviour, can lead people to turn inward in their self-deprecation and self-criticism. Shame can lead to over-arching evaluations of the self as bad and immoral, and is linked to self-hatred (Gilbert, 1998). Brown, Linehan, Comtois, Marray and Chapman (2009) found that non-verbal shame behaviours among participants in a clinical research trial for woman with borderline personality disorder predicted subsequent suicidal and non-suicidal self-injurious behaviour. These non-verbal shame behaviours were described as participants moving their eyes or head downwards, and were assessed by an observer during an interview where participants were asked about past self-harm. Participants who displayed more of these non-verbal shame behaviours were more likely to engage in later self-injurious behaviour, and to do so sooner (Brown et al., 2009).

Shame is particularly pertinent to NSSI for several reasons. First, NSSI can function to enact self-punishment, expressing/releasing shame and self-hatred. Second, self-injury is often a secretive behaviour to avoid negative reactions and rejection from others (Fortune, Sinclair, & Hawton, 2008). This secrecy can be linked to feelings of shame and wrongdoing. Acts of self-injury can be triggered by experiences of rejection or failure, which can be linked to shame (see Brown et al., 2009 for an overview of the relationship between shame and self-harm). Models of treatment for NSSI (see below), including DBT (Linehan, 1993) and Emotion Regulation Group Therapy (ERGT; Gratz et al., 2014), make specific mention of shame. Specifically, clients are encouraged to consider whether their shame is functional, and whether their shame may originate from unhelpful judgement regarding themselves and their emotions. Shame may be an important trigger for an individual's self-injury, and should be considered when conducting a functional behavioural analysis of self-injury (either as an antecedent to the behaviour and/or a consequence of self-injury that perpetuates the behaviour).

Treatment of NSSI

Importance of the therapeutic relationship

The therapeutic relationship is a very significant facilitator of change in intervention for NSSI (and indeed all psychological treatment; Walsh, 2006; Levitt, Butler, & Hill, 2006). Validation is an important, and consistent, part of treatment for NSSI. Through validation the clinician acknowledges the client's experience as understandable within the context of their experience (Linehan, 1997), making disclosure and self-acceptance (the antithesis of shame and embarrassment) more attainable. As well as validation, the clinician utilises other strategies within the relationship such as a non-judgemental stance (demonstrating acceptance of the client, and creating a space for full disclosure), and radical genuineness (taken from DBT, this involves the clinician stating their emotional reaction to the client's experience as they would to a colleague or family or whānau member, where appropriate, to emphasise the clinician's belief in the client's worth).

Models of treatment

There is a paucity of empirical research into the treatment of adolescent NSSI. In fact, Washburn and colleagues (2012 p1) state that "few psychotherapeutic treatments have been designed specifically for NSSI, and no treatments have been evaluated specifically for the treatment of NSSI among adolescents." A recent review of available treatments concluded that there is presently no well-established treatment for adolescent NSSI (Glenn, Franklin, & Nock, 2015). Within New Zealand mental health services, NSSI is typically treated using DBT (Dialectical Behaviour Therapy; Linehan, 1993) techniques, CBT (Cognitive Behavioural Therapy) and/or family therapy. Full DBT (Linehan; 1993) includes (at least) weekly individual therapy, participating in a weekly skills group for a minimum of six months (for an adolescent group), family therapy (usually fortnightly), and a clinician consult group. Hence it is a large commitment from mental health services and clients and their families, and is usually reserved for more severe clients.

Treatment outcome data from DBT clinical trials indicates that DBT is effective in reducing adult self-injurious behaviour, particularly for clients with borderline personality disorder. However, trials with adolescents are limited by small sample sizes, and a paucity of randomised control trials. Although there is preliminary evidence to suggest that DBT for adolescents (DBT-A; Rathus & Miller, 2002) reduces NSSI behaviour, this is based on small samples (e.g., $N=12$; Fleischhaker et al., 2011). Other studies of DBT-A are quasi-experimental and focus on reduced suicidality and hospital admissions rather than reduction in NSSI (e.g., Rathus & Miller, 2002).

Many New Zealand mental health services have conducted their own variant of an emotion regulation skills group which incorporates components of third wave therapies, including DBT and mindfulness. Internationally, Gratz and Tull (see Gratz, Dixon-Gordon, & Tull, 2014) have developed a 14-week skills group programme for adults who self-injure, Emotion Regulation Group Therapy (ERGT), which draws on DBT, Acceptance and Commitment Therapy (ACT) and elements of Emotion Focussed Therapy. ERGT delivers skills in increasing

emotional awareness (through psychoeducation), changing a client's relationship with their emotions (by encouraging emotional acceptance rather than fighting to change emotional experience), increasing willingness to experience strong emotion rather than avoid it so as to lead a fulfilling life, and having clients be mindful of responding to emotional stimuli in a way that is in accordance with their values. ERGT has demonstrated effectiveness with adults (Gratz et al., 2014, Gratz, Levy & Tull, 2012).

Family therapy for adolescent NSSI may be indicated, depending on a client's formulation and the willingness of the client and family or whānau members to engage in family work. Family therapy for NSSI typically includes psychoeducation regarding NSSI (e.g., the emotion regulation function of NSSI and the negative reinforcement cycle; related to the EAM (Chapman et al., 2006) discussed earlier), identifying antecedents to NSSI within family and whānau interactions and how these can be managed to reduce NSSI behaviour, re-aligning family or whānau roles into an appropriate structure (e.g., where a parent and child have become aligned and enmeshed to the exclusion of the other parent), fostering appropriate emotional expression within family or whānau interactions and improving communication (e.g., see Hollander, 2012). It may be particularly important to provide concurrent education and skills training for the families of adolescent clients, as adolescents will by and large return to their family or whānau environments during and after therapy.

Common treatment techniques

In spite of the current lack of consensus concerning well-established models of treatment for adolescent NSSI, Glenn and colleagues (2015) note that common elements found across promising treatments include family and parent education and skills training, and provision of skills training to individual clients (e.g., problem solving, emotion regulation). As with all psychological intervention, the treatment plan needs to be informed by a thorough assessment and a working formulation of the presenting problems. Below is a list of common treatment strategies. However, this is not an exhaustive list and other treatment strategies may need to be incorporated into a treatment plan for co-morbid difficulties.

Recording Log

It is common practice in treatment of NSSI (see for example, Gratz & Tull, 2010) for clients to keep a record of their NSSI behaviour and associated (risk) factors (e.g., alcohol and/or drug use). This is useful for several reasons including facilitating discussion in session of NSSI behaviour that otherwise may not be remembered in any useful detail, to develop client insight into their NSSI behaviour, and to normalise the discussion of client's NSSI. A skills log is also very useful (see below).

Replacement behaviours.

Many clinicians use negative replacement behaviours with adolescents who self-injure (e.g., applying ice to the area where the client would usually self-injure; drawing on the intended area of self-injury with a red pen or warmed red food colouring). These are used to varying effectiveness, depending on the client. Some clients find replacement behaviours very

helpful (or intermittently helpful), whilst others find the idea ludicrous. It is often helpful to have the young person come up with their own preferred replacement behaviour, to increase ownership and engagement with this concept. Replacement behaviours have been criticised for not addressing the underlying need, and in some cases for replacing one form of self-injury with another (e.g., in the case of using an elastic band to cause pain in place of NSSI); however this needs to be weighed up with the possible harm-reduction replacement behaviours may offer.

Safety contracts.

"Contracts for safety" and "no harm agreements" (where the clinician and client engage in a (signed) contract stating that the client will stop self-injuring) have no research support (Lewis, 2007), and in the case of 'no-suicide' contacts, are ineffective (Rudd, Mandrusiak, & Joiner, 2006). Garvey, Penn, Campbell, Esposito-Smythers and Spirito (2009) conducted a literature review of the use of these contracts to manage suicidal patients and concluded "empirically based evidence to support the use of the contract for safety in any population is very limited, particularly in adolescent populations" (Garvey et al., 2009; p. 363). Indeed, these contracts could potentially be harmful as they may alienate the young person, contribute to feelings of being misunderstood, and are likely more about clinician (and possibly family and whānau) anxiety than creating therapeutic change. Safety plans are more therapeutic, and are about a collaborative attempt between clinician and client to establish steps towards harm reduction, use of alternative skills, and engaging support networks to reduce risk (Klonsky et al., 2001).

Contingency management

Contingency management, whereby the clinician and client work towards reducing the reinforcing factors that maintain self-injury, can also be very useful. This may involve changing the environmental factors that are reinforcing the NSSI. For example, the young person may be able to avoid certain things as a result of their self-injury and contingency management would mean that the adolescent does not get to avoid this undesirable task based on their self-injury. Alternatively, contingency management may involve changing the behavioural response of others that may be inadvertently reinforcing the behaviour. For example, having adults respond to the NSSI in a low-key, dispassionate demeanour, rather than with high emotional reactivity which the young person may find reinforcing (see Walsh, 2006).

NSSI cognitions.

Identifying and evaluating cognitions is typically a key component of NSSI treatment, and involves identifying cognitions that are maintaining NSSI behaviour (e.g., core beliefs of being deserving of punishment). A functional behavioural analysis may identify common cognitions that occur prior to an episode of NSSI (or following an episode of NSSI which perpetuate the behaviour), and which contribute to the urge to self-injure. The client and therapist may then engage in information gathering to ascertain and evaluate the utility of these cognitions, and the evidence behind them, to enable the client to challenge unhelpful thoughts and

preferably replace them with more balanced, helpful ones.

Emotion regulation skills.

Treatment of NSSI also routinely includes developing skills to manage emotional distress (e.g., emotion regulation strategies such as relaxation techniques, mindfulness, etc.). Facilitating clients to respond to emotionally distressing stimuli skilfully is a key component of therapy, and having a client keep a skills log is useful in this regard. A skills log typically includes a record of the antecedent for the urge to self-injure, the skill the client chose to implement, and consequence(s) of using the skill including perceived effectiveness. Skills can be administered via skills groups (e.g., DBT or ERGT), rather than exclusively in individual therapy.

Common difficulties when working with clients who self-injure

Several common issues may arise in the assessment and treatment of NSSI. These include (but are not limited to) the following:

1. Client hesitancy to disclose episodes of NSSI for fear of being misunderstood and/or judged negatively. This makes validation, and a non-judgemental stance throughout all phases of assessment and intervention, particularly important.

2. The client may not be able to describe the reason(s) why they self-injure, particularly where a young person experiences difficulties understanding and communicating their emotional experience (for example, Alexithymia: Garisch & Wilson, 2010). This may require further assessment, and a functional behavioural assessment can be particularly helpful in this regard.

3. The client may not see their NSSI as a problem and may not be motivated to change the behaviour. Hence early stages of treatment may largely focus on developing or creating ambivalence, and employing techniques to encourage self-directed change (e.g., through motivational interviewing techniques). Creating a long-term and short-term pros and cons quadrant of NSSI behaviour with clients early on in treatment may facilitate this process. Adopting the stance of naïve enquirer when asking questions about the benefits and consequences of NSSI can be useful, and acknowledges the client as the expert in their own experience and the director of their own decision-making. This stance, along with Socratic questioning, can help prevent conflict between client and clinician (particularly when the client may be resistant to change). Clients continue using NSSI because it has served a useful purpose (albeit ultimately dysfunctional; Klonsky & Glenn, 2009); to disregard this would alienate the client and contribute to feelings of being misunderstood (this is a tenant of ERGT, discussed above; Gratz et al., 2014). It may be helpful to focus on the underlying need or function that NSSI serves, and develop other strategies for a client to achieve this end and bolster any areas of deficit, rather than directly focus on NSSI, particularly if this is leading to the client and therapist butting heads. Working against the client's stance, rather than alongside, can derail the relationship and treatment.

4. Clinicians' concerns around safety. Assessment and ongoing treatment requires a clear safety plan, particularly given the relationship between NSSI and risk of suicidal

behaviours (Nock et al., 2006). A safety plan may include a clear agreement between clinician and client in terms of when to disclose NSSI to family or whānau, and/or agreement on how the client will utilise their support system.

5. Confidentiality; specifically the client may not wish anyone to know about their self-injury whereas the therapist may consider it necessary for client safety. Clinical judgement is needed to determine whether the clients' wish for autonomy is upheld. This will depend on numerous factors including severity of NSSI, age of the client, client's willingness to utilise other coping strategies and engage in a self-directed safety plan, client's ability to resist urges to self-injure, and client's ability and willingness to utilise a therapeutic service in times of crisis.

6. Family and whānau anxiety around how to respond to and manage NSSI. Common issues here include family and whānau uncertainty of how regularly to ask their young person about the self-injury, whether to remove access to means, and how to respond to NSSI behaviour. For instance, punitive responses are not uncommon, however these can increase a client's sense of being misunderstood as well as negative emotions such as shame (which can precede an episode of NSSI). Providing family and whānau with information about self-injury and its functions may be useful to address kneejerk responses to a stigmatised behaviour. In other cases, parents or whānau may withdraw from their parenting role and not set boundaries around behaviour, for fear of triggering an NSSI episode. Psychoeducation regarding the benefits of setting firm and consistent limits and consequences may assist in this regard.

Conclusion

NSSI is a complex and heterogeneous behaviour. Early identification of NSSI can allow for more successful treatment, and may stop the behaviour from becoming entrenched over time as the go-to means of managing distress to the detriment of other coping skills. A thorough assessment is necessary to create an individualised formulation to inform treatment, and to identify the functions of NSSI for a particular client. Assessment may be facilitated by the use of a screening instrument (and such psychometrics are also useful for assessing change during therapy). A functional behavioural assessment is pivotal for identifying the antecedents, behavioural characteristics, and consequences of NSSI, and is a useful tool both during assessment and in therapy. NSSI is commonly treated through CBT and DBT techniques, however there is little empirical evidence regarding what treatment strategies effectively reduce adolescent NSSI behaviour. Research and clinical experience suggests that adolescents who self-injure benefit from cognitive and behavioural techniques, emotion regulation and problem solving skills, and a family or whānau component to treatment. More research is needed to assess the effectiveness of different therapies for reducing adolescent NSSI behaviour. Lack of funding in mental health services and lack of clinician time make intensive treatments such as DBT untenable for the majority of clients and service providers; and the level of therapeutic intervention needs to be matched to client need. A briefer, skills based intervention

would be useful in this regard. Emotion Regulation Group Therapy (ERGT; Gratz et al., 2014) offers a brief intervention as an adjunct to treatment as usual, and holds promise. Future research is needed to assess the effectiveness of ERGT with adolescents. We are in the process of establishing a pilot study of an amended form of ERGT for adolescents in Aotearoa New Zealand.

Additional information

The following websites have resources for individuals who self-injure, their family and whānau, friends and professionals:

The Cornell Research Program on Self-Injury and Recovery has a host of resources available for individuals who engage in NSSI, their families and whānau, friends and schools. See <http://www.selfinjury.bctr.cornell.edu/>

The Youth Wellbeing Study website has numerous resources available, as well as Wellington-based research summaries relating to the risk and protective factors for NSSI. See <http://www.victoria.ac.nz/psyc/research/youth-and-wellbeing-study>

Self-Injury Outreach and Support (SIOS) is a website providing resources for people who self-injure, their loved ones, and professionals, and includes resources to resist the urge to self-injure. See <http://sioutreach.org>

The Interdisciplinary National Self-Injury in Youth Network, Canada, has a website that includes a range of resources for youth, their family and whānau, friends and professionals, with links to further information, see <http://insync-group.ca/>

The Mental Health Foundation of New Zealand has a webpage on self-harm, with links to support agencies, resources for youth and families, and practice guidelines. See <https://www.mentalhealth.org.nz/get-help/a-z/resource/49/self-harm>

Hasking and colleagues at the University of Queensland have developed guidelines for parents and families, and young people seeking solutions to end their self-injury. These guidelines are available for a small fee:

Applicable to families: <http://www.familyconcernpublishing.com.au/product/seeking-solutions-to-self-injury-the-parents-and-families-guide-2nd-edition/>

Applicable to youth: <http://www.familyconcernpublishing.com.au/product/seeking-solutions-to-self-injury-the-young-peoples-guide/>

References¹

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Baetens, I., Claes, L., Muehlenkamp, J., Grietens, H., & Onghena, P. (2011). Non-suicidal and suicidal self-injurious behaviour among Flemish adolescents: A web-survey. *Archives of Suicide Research, 15*(1), 56–67. doi:10.1080/13811118.2011.540467

Brickman, L. J., Ammerman, B. A., Look, A. E., Berman, M. E., & McCloskey, M. S. (2014). The relationship between non-suicidal self-injury and borderline personality disorder symptoms in a college sample. *Borderline Personality Disorder and Emotion Dysregulation, 1*(14). doi:10.1186/2051-6673-1-14

Brown, M. Z., Linehan, M. M., Comtois, K. A., Murry, A., & Chapman, A. L. (2009). Shame as a prospective predictor of self-inflicted injury in borderline personality disorder: A multi-modal analysis. *Behaviour Research and Therapy, 47*(10), 815–822. doi:10.1016/j.brat.2009.06.008

Burke, T. A., Hamilton, J. L., Abramson, L. Y., & Alloy, L. B. (2015). Non-suicidal self-injury prospectively predicts interpersonal stressful life events and depressive symptoms among adolescent girls. *Psychiatry Research, 228*(3), 416–424. doi:10.1016/j.psychres.2015.06.021

DiClemente, R. J., Ponton, L. E., & Hartley, D. (1991) Prevalence and correlates of cutting behavior: Risk for HIV transmission. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*(5), 735–739. doi:10.1016/S0890-8567(10)80007-3

Fleischhaker, C., Böhme, R., Sixt, B., Brück, C., Schneider, C., & Schulz, E. (2011). Dialectical Behavioral Therapy for adolescents (DBT-A): a clinical trial for patients with suicidal and self-injurious behaviour and borderline symptoms with a one-year follow-up. *Child and Adolescent Psychiatry and Mental Health, 5*(3), doi: 10.1186/1753-2000-5-3

Fortune, S., Seymour, F., & Lambie, I. (2005). Suicide behaviour in a clinical sample of children and adolescents in New Zealand. *New Zealand Journal of Psychology, 34*(3), 165-170.

Fortune, S., Sinclair, J., & Hawton, K. (2008). Help-seeking before and after episodes of self-harm: A descriptive study in school pupils in England. *BMC Public Health, 8*:369. doi:10.1186/1471-2458-8-369

Garisch, J. A., & Wilson, M. S. (2010). Vulnerabilities to deliberate self-harm among adolescents: The role of alexithymia and victimization. *British Journal of Clinical Psychology, 49*(2), 151–162. doi:10.1348/014466509X441709

Garisch, J. A., & Wilson, M. S. (2015). Prevalence, correlates, and prospective predictors of non-suicidal self-injury among New Zealand adolescents: cross-sectional and longitudinal survey data. *Child and Adolescent Psychiatry and Mental Health, 9*:28. doi:10.1186/s13034-015-0055-6

Gilbert, P. (1998). What is shame? Some core issues and controversies. In P. Gilbert & B. Andrews (Eds.), *Shame: Interpersonal behaviour, psychopathology and culture* (pp. 3-36). New York, NY: Oxford University Press.

Glenn, C. R., Franklin, J. C., & Nock, M. K. (2015). Evidence-based psychosocial treatments for self-injurious thoughts and behaviors in youth. *Journal of Clinical Child & Adolescent Psychology, 44*(1), 1–29. doi:10.1080/15374416.2014.945211

Glenn, C. R., & Klonsky, E. D. (2013). Nonsuicidal self-injury disorder: An empirical investigation in adolescent psychiatric patients. *Journal of Clinical Child & Adolescent Psychology, 42*(4), 496–507. doi:10.1080/15374416.2013.794699

Gratz, K. L., Dixon-Gordon, K. L., & Tull, M. T. (2014). Predictors of treatment response to an adjunct emotion regulation group therapy for deliberate self-harm among women with borderline personality disorder. *Personality Disorders, 5*(1), 97–107. doi:10.1037/per0000062

Gratz, K. L., Levy, R., & Tull, M. T. (2012). Emotion regulation as a mechanism of change in an acceptance-based emotion regulation group therapy for deliberate self-harm among women with borderline personality pathology. *Journal of Cognitive Psychotherapy: An International Quarterly, 26*(4), 365–381. doi:10.1891/0889-8391.26.4.365

Gratz, K. L., & Tull, M. (2010). *An acceptance-based emotion regulation group therapy for deliberate self-harm*. Unpublished Therapy Manual.

Hollander, M. (2012). *Family Therapy*. In B. E. Walsh (Ed.), *Treating*

¹ References bolded indicate articles providing detail on specific NSSI treatments.

- Self-Injury. A Practical Guide (2nd ed) (pp. 186-194). London, UK: The Guilford Press.*
- Jacobson, C. M., & Gould, M. (2007). The epidemiology and phenomenology of non-suicidal self-injurious behavior among adolescents: A critical review of the literature. *Archives of Suicide Research, 11*(2), 129–147. doi:10.1080/13811110701247602
- Klonsky, E. D., & Lewis, S. P. (2014). Assessment of Nonsuicidal Self-Injury. In M. K., Nock (Ed.), *The Oxford handbook of suicide and self-injury (pp. 337-354)*. New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780195388565.013.0019
- Klonsky, E. D., Muehlenkamp, J. J., Lewis, S. P., Walsh, B. (2001). *Nonsuicidal Self-Injury*. Cambridge, MA: Hogrefe.
- Klonsky, E. D., & Glenn, C. R. (2009). Assessing the functions of non-suicidal self-injury: Psychometric properties of the inventory of statements about self-injury (ISAS). *Journal of Psychopathology and Behavioral Assessment, 31*(3), 215–219. doi:10.1007/s10862-008-9107-z
- Levitt, H., Butler, M., & Hill, T. (2006). What clients find helpful in psychotherapy: Developing principles for facilitating moment-to-moment change. *Journal of Counseling Psychology, 53*(3), 314-324. doi: 10.1037/0022-0167.53.3.314
- Lewis, L. M. (2007). No-harm contracts: A review of what we know. *Suicide Life Threatening Behaviour, 37*(1), 50–57. doi:10.1521/suli.2007.37.1.50
- Linehan, M. M. (1993). *Cognitive behavioural treatment of borderline personality disorder*. New York, NY: Guilford Press.
- Linehan, M. M. (1997). Validation and psychotherapy. In A. C. Bohart & L. S. Greenberg, L (Eds.) *Empathy reconsidered: New directions in psychotherapy*, (pp. 353-392). Washington, DC: American Psychological Association.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16*(2), 361–388. doi:10.1111/j.1467-9507.2007.00389.x
- Muehlenkamp, J. J., Claes, L., Havertape, L., & Plener, P. L. (2012). International prevalence of adolescent non-suicidal self-injury and deliberate self-harm. *Child and Adolescent Psychiatry and Mental Health, 6*:10. doi:10.1186/1753-2000-6-10
- Nixon, M. K., & Heath, N. L. (2009). *Self-injury in youth: The essential guide to assessment and intervention*. New York, NY: Routledge.
- Nock, M. K. (Ed.) (2009). *Understanding Nonsuicidal Self-Injury: Origins, Assessment, and Treatment*. Washington, DC: American Psychological Association.
- Nock, M. K., & Prinstein, M. J. (2004). A functional approach to the assessment of self-mutilative behavior. *Journal of Consulting and Clinical Psychology, 72*(5), 885–890. doi:10.1037/0022-006X.72.5.885
- Nock, M. K., Joiner, T. E., Gordon, K. H., Lloyd-Richardson, E., & Prinstein, M. J. (2006). Non-suicidal self-injury among adolescents: Diagnostic correlates and relation to suicide attempts. *Psychiatry Research, 114*(1), 65–72. doi:10.1016/j.psychres.2006.05.010
- Rathus J. H, Miller A. L (2002). Dialectical behavior therapy adapted for suicidal adolescents. *Suicide Life Threat Behavior. 32*(2), 146-157. doi:10.1521/suli.32.2.146.24399
- Rizvi, S. L., & Ritschel, L. A. (2014). Mastering the art of chain analysis in dialectical behavior therapy. *Cognitive and Behavioral Practice, 21*(3), 335–349. doi:10.1016/j.cbpra.2013.09.002
- Rudd, D. M., Mandrusiak, M., Joiner, T. E. (2006). The case against no-suicide contracts: The commitment to treatment statement as a practice alternative. *Journal of Clinical Psychology, 62*(2), 243–251, doi:10.1002/jclp.20227
- Turner, B. J., Layden, B. K., Butler, S. M., & Chapman, A. L. (2013). How often, or how many ways: Clarifying the relationship between non-suicidal self-injury and suicidality. *Archives of Suicide Research, 17*(4), 397–415. doi:10.1080/13811118.2013.802660
- Walsh, B. W. (2006). *Treating Self-Injury: A Practical Guide*. New York, NY: Guilford Press.
- Washburn, J. J., Aldridge, D., Antoniewicz, T., Gebhardt, M., Juzwin, K. R., Mitckess, D., Rudolph, J., Styer, D. M., & Yourek, A. M. (2014). *Self-Injury: Simple Answers to Complex Questions*. Illinois, IL: Alexian Brothers Press.
- Wahsburn, J.J., Richardt, S.L., Styer, D.M., Gebhardt, M., Juszwini K.R., Yourek, A. & Aldridge, D. (2012). Psychotherapeutic approach to non-suicidal self-injury in adolescents. *Child and Adolescent Psychiatry and Mental Health, 6*:14 doi:10.1186/1753-2000-6-14
- Wilkinson, P. (2013). Non-suicidal self-injury. *European Child & Adolescent Psychiatry, 22*(1), 76-70, doi 10.1007/s00787-012-0365-7
- Wilson, M.S., Robinson, K., Brocklesby, M., Garisch, J.A., Langlands, R., Russell, L., O'Connell, A., Kingi, T., et al. (2016). *Understanding Non-Suicidal Self-Injury in New Zealand*. Annual Conference of the New Zealand Psychological Society, September 2016, Wellington, New Zealand.
- Wilson, M.S., Robinson, K., Brocklesby, M., Kingi, T., Garisch, J.A., Langlands, R., Russell, L., & O'Connell, A. (2016). *Results of a longitudinal study of the development, maintenance and cessation of self-injury among a large sample of community adolescents*. 11th Annual Conference of the International Society for the Study of Self-injury, June 2016, Wisconsin, United States.
- Zetterqvist, M. (2015). The DSM-5 diagnosis of nonsuicidal self-injury disorder: A review of the empirical literature. *Child and Adolescent Psychiatry and Mental Health, 9*:31 doi:10.1186/s13034-015-0062-7

Acknowledgements

We are grateful for the support provided by grant 11/645 from the Health Research Council of New Zealand.

Corresponding Author

Prof Marc Wilson
 School of Psychology
 Victoria University of Wellington
 PO Box 600
 Wellington 6140
 New Zealand
 Email: Marc.Wilson@vuw.ac.nz.