Original Article

A qualitative study of motivations for non-suicidal self-injury in a sample of psychiatric outpatients in Singapore

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Abstract

Introduction: The popular notion that the need for attention drives non-suicidal self-injury (NSSI) serves to stigmatise rather than understand this warning sign of underlying psychological/psychiatric disorder. Despite the pervasiveness of NSSI in clinical and community settings, effective treatments for this behaviour are lacking. This qualitative research aims to understand the motivations of NSSI in adolescents/young adults in a mental health facility in Singapore.

Methods: Semi-structured interviews were conducted with 20 outpatients (6 males, 14 females) of the Institute of Mental Health aged 17–29 years who had reported NSSI as part of an earlier survey. The interviews were audio-recorded and transcribed verbatim. Thematic analysis was used to analyse the data. The main themes and sub-themes were identified and described.

Results: A preponderance of motivations served intrapersonal emotion-regulating purposes, which were categorised as to: (a) release bottled-up feelings; (b) self-punish; (c) turn aggression inwards; (d) sensitise oneself; and (e) attain a sense of control and mastery. By contrast, a small subset of motivations served the interpersonal motivation of signaling one's distress, especially when the capacity for verbal expression was limited or attempts to verbalise distress were futile.

Conclusion: Committing NSSI solely for attention-seeking is a myth that perpetuates the stigma and hinders those in need of psychological care from seeking appropriate treatment. NSSIs may be warning signs that indicate not only intrapersonal conflicts but external environments that are perceived unsafe to deal with these intrapersonal conflicts. An understanding of the underlying motives will facilitate better treatment of individuals presenting with NSSI.

Keywords: Functions, non-suicidal, reasons, self-harm, self-injury

INTRODUCTION

The motivation to avoid physical pain and injury is instinctive. Thus, it is perplexing why a subset of the population would, on their own volition, deliberately and repeatedly harm themselves by cutting, hitting and burning themselves, among other self-injuring behaviours. Non-suicidal self-injury (NSSI) refers to direct and deliberate damage to body tissue in the absence of any intent to take one's own life.[1]

The prevalence of NSSI is 1%–4% in the general adult population in the United States and Canada,[2,3] whereas a much higher (14%–15%) prevalence has been reported in studies involving the adolescents in the community and college students in these countries.[4,5] These rates are about four times higher (40%–80%) in young psychiatric patients.[6,7] Despite the elevated rates observed in adolescents and young adults, evidence regarding effective interventions is scarce.[8]

Negative attitudes towards NSSI is a barrier to help-seeking behaviour among individuals presenting with this behaviour.[9] For instance, the staff at emergency departments (EDs) were

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perceived by individuals who self-injure to be punitive and judgmental in their attitude towards them.[10] Individuals who present to EDs for medical attention as a result of NSSI are not perceived as 'good or deserving patients', as such patients are deemed to be attention seeking, manipulative and beyond help.[11] Staff from EDs have been reported to make the person wait, express obvious annoyance, ire, fear, helplessness or fail to show respect and compassion for the patient.[10]

The perception that self-harm is largely an attention-seeking or manipulative behaviour is inaccurate, with most studies demonstrating that only a small proportion of self-injurers report doing so to pressurize others into responding in a certain way.[7,12,13] Emotion regulation is considered to be the core process underlying NSSI.[14] In fact, self-harm is usually a covert act that often goes unnoticed or unreported.[15] The cognitive-emotional model of NSSI posits that when an emotionally volatile situation is perceived, an individual's emotion-regulating capacity, thoughts and schemas will influence their response. In brief, the model predicts that NSSI is more likely to result when the individual is emotionally reactive, believes that engaging in NSSI will result in a desirable outcome (i.e. outcome expectancies), believes that he/she is unable to resist NSSI in the given situation (i.e. self-efficacy beliefs) and does not have more adaptive emotion regulation strategies.[16]

The treatment of NSSI, typically as a symptom of borderline personality disorder, is a major criticism of current therapeutic approaches. Labelling individuals who self-harm with these 'difficult' diagnoses often serves to stigmatise rather than provide a better understanding of their behaviour.[17] In recent years, there is a revival of qualitative research to examine the different motivations underlying self-harm behaviours.[18] While emotion regulation and social influencing motivations have consistently been reported in the literature, some studies have suggested other motivations (e.g. implicit identification, suicide-averting functions) for NSSI behaviours.[13,19] An awareness regarding the motivations for self-injury can help health professionals empathise with the extent of suffering that the client is undergoing and provide them with an understanding of the function of the behaviour. This, in turn, will promote a supportive therapeutic alliance that is paramount to successfully treating NSSI.[20]

Singapore is a dense multiracial city-state, where 5.6 million residents of different cultural traditions and religions coexist. The local popular press has reported an increase in NSSI in recent years.[21,22] However, local research in this domain is limited. A survey of self-injury in psychiatric outpatients aged 14–35 years found a prevalence rate of 58.8%, mirroring the elevated rates observed in young psychiatric patients worldwide.[23] Emotion regulation was found to be the most commonly endorsed function of NSSI compared to social functions,[24] and emotion dysregulation mediated the relationship between child maltreatment exposure and self-injurious behaviours.[25] These local studies are based on survey data, and to the best of our knowledge, no local qualitative studies have explored the motivations for NSSI from the perspective of individuals with these behaviours. This study aimed to contribute to the literature by examining the motivations for NSSI from the lived experiences of patients with mental illness in Singapore.

METHODS

Participants were 20 outpatients (aged 17–29 years) of the Institute of Mental Health (IMH), Singapore's only tertiary mental health service provider, who were selected from a pool of youth who had participated in the first phase of the study; this was a cross-sectional survey examining the prevalence and correlates of NSSI among 400 IMH outpatients, conducted between October 2015 to June 2016.[23] NSSI was measured using the self-report checklist of the Functional Assessment of Self-Mutilation (FASM).[26]

As part of consent-taking in Phase 1, participants were informed that Phase 2 of the study involved an in-depth interview with a subset of participants to understand their motivations for NSSI. Contact information was collected from participants who were willing to participate in Phase 2. The inclusion criteria for Phase 2 were endorsement of any of the NSSI acts listed in the FASM (e.g. 'cut or carved your skin', 'hit yourself on purpose', 'burned your skin') and consent to be interviewed for the current study.

Gender, ethnicity, type of self-injury and psychiatric diagnosis (as extracted from the medical records) that may account for differences in motivations for NSSI were considered in the sampling. Additionally, information regarding the frequency of NSSI in the past year and whether the NSSI required medical attention (e.g. suturing) obtained using the FASM was used as a proxy measure of severity to include a variety of individuals who self-injured. The sociodemographic and clinical characteristics of the sample and of each participant are presented in Table 1 and Appendix, respectively. The interviews were conducted between October 2015 and October 2016. Ethics approval for the study was obtained from the National Healthcare Group Domain Specific Review Board, and participants provided informed consent prior to commencing the semi-structured interviews.

Co-authors SS and MS conducted the semi-structured interviews (SSIs), and each interview lasted about 60 minutes. The SSIs were held in assessment rooms in the IMH research office. Participants were specifically informed that the focus of the interview was on non-suicidal self-injurious behaviours. The interview guide explored the lived experience of self-injury among young individuals. Data elicited largely through the grand tour questions, "Tell me about the first time you hurt yourself on purpose", "What were the reasons you continued to hurt

Table 1. Sociodemographic characteristics of participants (n=20).

Characteristic	No.
Gender	
Male	6
Female	14
Age group (yr)	
17-19	10
20-24	5
25-29	5
Ethnicity	
Chinese	11
Malay	5
Indian	2
Others	2
Diagnosis	
Mood disorder	10
Adjustment disorder	5
Anxiety disorder	2
Borderline personality disorder	2
Schizophrenia	1

yourself on purpose?" and "What are some of the good things about self-harm?" were used in this manuscript. Interviews were recorded using a digital audio-recording device and transcribed verbatim by three of the authors (SS, YJZ and RS). Interviews were conducted until data saturation was attained.[27]

Thematic analysis was conducted using Braun and Clarke's six-step procedure.[28] In Step 1, co-authors MS, SS and YJZ each read a subset of the transcripts line by line and coded inductively, with open coding being employed. The process of reading and re-reading the transcripts resulted in familiarisation with and immersion in the data. In Step 2, the initial codes identified by each coder were compiled and organised into meaningful groups until a list of codes was agreed upon. These codes organised data at a semantic level. Step 2 of Braun and Clarke's guide was modified to create a codebook, a modification that has also been described by Ando *et al*.[29] The purpose of the codebook in our analysis was to provide the three coders with a similar understanding of the types of information to be grouped into a particular code. Each code in the codebook was described with a label, definition, inclusion and exclusion criteria, and examples of typical and atypical codes from the raw data. The main codes used in this analysis, were 'Reasons for self-harm', 'Events that triggered self-harm' and 'Good things about self-harm'. Minimal interpretation was carried out at this stage. The codebook was reviewed and refined collaboratively as a team. Coding of an entire single transcript by all the coders commenced after the first draft of the codebook was finalised so as to establish inter-rater agreement. NVivo11 was used to calculate the kappa coefficient between the three coders. The coders identified and resolved major differences in coding, and the process was reviewed and repeated with a different transcript until a kappa coefficient across the three coders ranging from 0.75 to 0.79 for each pair was attained. Then, the 20 interview transcripts were divided among the three coders and the finalized codebook was applied to all the transcripts through the NVivo11 software. After coding all transcripts, Step 3 began, where the codes were sorted such that similar codes were grouped together to form potential themes. The process of identifying themes involved interpreting the data at a latent level. Codes that initially did not seem to fit any theme were revisited as the themes were gradually refined. This process was, thus, an iterative rather than a linear process, where 'rough' themes were examined in detail to determine whether each theme cohered as it was, or needed to be combined, refined, separated or discarded. The relationships between these themes were also examined and different levels (main theme and sub-themes) were identified. In Step 4, any remaining codes were compared against the revised codes to determine fit until a concise, coherent, non-repetitive thematic structure was reached. In Step 5, the initial themes drafted by authors SS, YJZ and MS were presented to the rest of the authors for further refinement. Lastly, in Step 6, the themes were finalised.

RESULTS

The themes that emerged from the analysis of motivations for NSSI were predominantly intrapersonal in nature. Five forms of intrapersonal motivations for NSSI that emerged from the data were to release bottled up feelings, self-punish, turn aggression inwards, sensitise oneself and attain a sense of control and mastery. Social signalling summarises the interpersonal motivations for NSSI.

NSSI as a desperate attempt to regulate overwhelming emotions was the most common recurring theme across the SSIs. Participants described how 'pressure' that escalated to an intolerable point was relieved by an act of self-injury. While the participants reported wide-ranging reasons behind this pressure (e.g. making mistakes at work, being financially strapped, being withdrawn from a competition), the ensuing feeling from these events converged on feelings of thwarted self-worth. It appeared that the primary function of these acts was to reduce hyperintense emotions, as the acts were often conducted in isolation. However, some participants conceded that receiving care from others might be a secondary gain. Important predisposing factors described by participants centred on scarce or poor-quality emotional support, for instance, not having someone trustworthy to confide in, feeling alienated by friends and family or having ineffective confidants who stoked more bad feelings. Participants described NSSI as a fast-acting means of attaining calmness, reducing tension and stress, with some participants describing momentary happiness as an additional benefit.

"There's just a lot of bottling up and I don't know how to let it out. You know when you talk to someone, you don't feel that's

enough. I insert more things that I let out. The closest person to you is family but you can't mention it to your family or you can't really open it up because you don't know what words to put… you don't know how are their reaction. If their reaction is gonna be negative (that's) gonna be another problem". (A1015, female, major depressive disorder)

"Calm me down because like I said, to relieve the tension and distress, because I… I feel very distressed". (A4080, female, major depressive disorder)

Another motivation for NSSI was to punish oneself or to absolve themselves from guilt. There was some variation in how self-punishment manifested. The most commonly described form was through self-loathing triggered by mishaps that the participants blamed themselves for and punishing themselves for causing the problems.

"My parents quarrelling because of me. They say I am a burden. (Interviewer: Okay and so… you hit yourself to)… as punishment." (A1021, female, schizophrenia)

The significance of self-punishment through NSSI was also described by participants as a way to come to terms with chastisement from others that they felt they did not deserve. NSSI made them feel that they had paid for what others had blamed them for and, thus, freed them from any dues.

"As long as I keep on feeding on off the pain from here into rage… from sadness or whatever to become rage and I would feel a lot better when I said it was my fault and say, look, it's not my fault anymore… they don't know how much I tried. well, I've already punished myself already enough… something like that yes, if it was my fault, I already punished myself for it already." (A4080, female, major depressive disorder)

In the same vein, another participant described NSSI in terms of paying in advance for future misfortunes, akin to a superstitious belief of carrying out a particular practice to ward against potential harm.

"Maybe I just feel that all these problems that happen to me right, it's like punishment for myself. Like maybe I thought punishing myself more will stop problems." (A3011, male, adjustment disorder)

Some participants self-injured to make sense of their predicament, accepting first as default that they were blameworthy before fully appreciating their role. It seemed that NSSI helped them resolve the dissonance of feeling at fault without any clear evidence suggesting so, wherein if the cutting felt appropriate, then they must be guilty.

"After (self-harm) I really feel like a really bad person that I really deserved…to be treated this way, so that's why from not feeling like I deserved it and then to feeling that I deserved it then that's how it reconciles." (A4080, female, major depressive disorder)

As mentioned earlier, the environment that many of the participants were surrounded by was riled with hostility, abuse and criticism, which made it unconducive and unsafe for them to talk through their problems and sort out conflicts. Thus, another motivation to self-injure was for feelings of anger, frustration and aggression towards a target person to be turned inwards towards the self. To them, this seemed a better alternative to the violent ideation they had in their minds towards that other person. Thus, NSSI was perceived in these instances as a salutary or self-sacrificial act and a display of mastery over their emotions. Thus, NSSI was not always an act that they were ashamed of but one that they may view with some pride.

"When you feel the pain. I mean like when you hit the wall or see the blood, you feel kind of pain right, so you feel a bit calm, because when you feel hurt you will burst into like one crazy guy right? Cause you can do anything, so when you hurt yourself, it will stop you from doing like you want to kill that person you know." (A1069, male, dysthymic disorder)

"I hurt myself because-because I'm mad at what they say but I can't-I can't show it to them. I can't be angry at them. So the only way is to harm-to self-harm myself." (A1015, female, major depressive disorder)

NSSI was also carried out to force oneself to 'feel present' when experiencing emotional numbness, 'mental fog' or dissociation from reality. Earlier, we described NSSI in the context of feeling overcome by intense emotions. However, participants who found themselves being unable to feel described the feeling of 'detachment' as being worse. One participant likened such emotional numbness to being 'dead' and that seeing blood was a symbolic reminder that she was alive.

"One of the reasons why I cut myself is because I couldn't feel. Back then I was feeling too much so I cut myself. But now, it's more like I can't feel, I need to feel something." (A2072, female, adjustment disorder)

"When I'm so emotionally hurt but I feel so like dead inside right then when I see blood right oh my god I'm alive. But and also like if I feel very like.at the same time is like oh I cut deep enough today to be able to get some blood out of me." (A3080, female, dysthymic disorder)

Another participant explained that it was important for her to feel something in order to process her predicament and work towards a solution, as being numb rendered her devoid of her cognitive and emotional resources. Participants also described feeling numb as a frightening indication that they had deteriorated to a severe state of mental illness, which they needed to extricate themselves (through NSSI).

"At that stage where it's kind of bad but I, not making it progress any worse I think because I can't progress any worse

like I feel so numb that I don't know what's happening. When you are numb and you just keep telling that person oh so your brain goes like this like that and then tells them oh you should do this, this is how you cope when they don't even know what they are feeling in the first place. It's better to trigger emotions for them to feel, it may turn out bad la but it's worth the risk because like if you can feel, then you can feel good." (A4060, female, borderline personality disorder)

In addition, participants described how NSSI jolted them back to a more alert state when they were lulled into a 'mental fog', which happened when their mind was too cluttered with worries and thoughts. In such instances, the physical pain from NSSI snapped them back to things or tasks that required their immediate attention, thus allowing them to fulfil their social or occupational functions. For instance, a participant suffering from major depression described 'an adrenaline rush' from NSSI that refreshed her from her demotivated state.

"You're sad or whatever, and your mind is like being dragged out by something and then you just take a lighter or something and just (gestures) and it gets so painful until you can't take it anymore and at least there's pain and then there's clarity for a moment there and if you can snap your mind back into place, or something and then you would be able to do it much more easier." (A3028, male, adjustment disorder)

Apart from achieving a sense of mastery over their emotions, several other motivations for NSSI expressed by participants enabled them to feel in control amidst the chaos in their environment. One participant described NSSI as a form of boundary control where focusing on harming himself afforded him a personal space that he could turn to for escape.

"Like you won't think of the situation now when you just want to get out of the…like locking yourself in a box, trying not to have the touch of the world like that." (A2090, female, major depressive disorder)

"It's also the only thing that you can control. It's like when you are very upset and everything feels very out of reach like cutting is the only thing you can control and like you have like the power over so it made me feel better." (A3063, female, generalised anxiety disorder)

NSSI was also described as symbolic of transfer in power over pain. These participants described that the people who hurt them were undeserving of the right to hurt them, and NSSI gave them their rightful place as a 'master of their own hurt', a term described by Edmondson *et al*.[18]

"Rather than let other people hurt me, I decide to hurt myself, right? You know. Cause I am sick and tired of getting hurt by my parents, so might as well just hurt myself. I just feel much better harming myself then let other people hurt me". (A1069, male, dysthymic disorder)

"It felt like no matter how much people hurt me I'm the one who can control everything since I can hurt myself even more". (A3063, female, generalised anxiety disorder)

Lastly, several participants described NSSI as a skill that they had honed and developed expertise in. The majority of the participants shared that they perceived themselves as failures. Thus, when they harmed themselves in more severe ways than before or in more severe ways than others have, they regarded this progression as an accomplishment that others have not dared to venture, giving them a sense of achievement as well as thrill.

"If you see it deep enough or something then you kind of feel more accomplished. It's something you can do compared to all the other things in life that's going on that you can't complete you can't handle". (A4060, female, borderline personality disorder)

"A bit narcissistic but it's sometimes I feel like okay at least I can succeed in self-harming. I feel like I have really gained a hold on this self-harm and I'm really succeeding in this and this is just going to be it so I feel like in my life, I cannot accomplish anything, but at least self-harm I can accomplish something". (A4080, female, major depressive disorder)

NSSI was used as an alternate form of communication when the usual means (e.g. explaining, crying, and yelling) were not heeded, ignored or met with undesired outcomes. In such instances, participants described NSSI as a means to elicit a different response, usually one showing care, sympathy or acquiescence.

"She (girlfriend) would like, "I don't like that girl talking to you" or something and I'll go like "she's just a friend" and then she wouldn't like accept it and all, she go ballistic, I would like "fine" and then I'll do something along the lines of like… smashing my head on the MRT door, "is this what you want?"" (A3028, male, adjustment disorder)

"She couldn't understand how I was feeling and she was trying to blame it on me for not being brave enough to go to school. 'Cause that time I felt very afraid of going to school, 'cause of social anxiety and she wouldn't listen to me. I didn't know how to express it other than to (self) injure." (A3063, female, generalised anxiety disorder)

NSSI was also used to convey that the amount of distress the participants were facing at that moment was not one to be dismissed as a run-of-the-mill issue, but that they had reached a heightened state of pain that required special attention.

"I guess in a way it…it also (breathes out) helps me sometimes to convey how much pain I was in." (A4080, female, major depressive disorder)

Finally, NSSI was described as effective in eliciting the attention that the participants craved from others. These participants had often been ignored, excluded and ostracised without reasons conceivable to them. Thus, attention from

others elicited via NSSI, even negative attention, provided them a means through which they could create/develop some form of social connection with others.

"I think in a way, I felt more fulfilled. Like you know I was getting noticed at last so even though, even if it was negative attention but I still feel like at least I'm getting somewhere. At least someone is noticing me." (A2072, female, adjustment disorder).

DISCUSSION

Our study identified six unique themes as motivations for NSSI in our sample of patients with mental illness, namely to release bottled up feelings, self-punish, turn aggression inwards, sensitise oneself, attain a sense of control and mastery, and for social signalling. While the motivations for NSSI were differentiated, similarities were also noted across the six themes. As described in the cognitive-emotional model of NSSI, an unpleasant emotional state was perceived, followed by a desire to address the uncomfortable state. NSSI was associated with positive outcome expectancies and described by participants as an effective means of alleviating or modulating these unpleasant states. The various motivations for NSSI are discussed as follows.

The emotion regulation function of NSSI has received the strongest empirical support.[30] A systematic review by Edmondson *et al*. across 152 articles found that almost all studies (98%) identified emotion regulation function as a self-reported motive for NSSI.[31] The themes of releasing bottled up feelings and turning aggression inwards illustrate a desperate need to modulate intense, unpleasant emotions. Individuals with a history of NSSI have been shown to abort a distressing task after a shorter duration of exposure than non-injurers would, suggesting that they experience a greater intensity of emotional distress or unwillingness to experience the distress and a desire to do something to end the distress.[32]

Participants also described NSSI in the context of invalidating parent-child environments, in line with Linehan's biosocial model, in which emotional dysregulation is a result of biological and environmental interaction. A tendency to experience intense emotions combined with an environment where there are no or poor models to exemplify constructive management of emotions[33] leads to stressful levels of negative emotions and maladaptive behaviour (e.g. aggressive and under-controlled behaviours in social interactions).[34] While participants described NSSI as an effective way to reduce negative emotions and even elicit positive ones, they were often unable to describe the process. This could be attributable to the fact that the effect was psychophysiological. Such physiological effects of NSSI are supported by objective measures that show that physiological arousal decreases during guided imagery of NSSI among adults diagnosed with borderline personality disorder and those with a history of NSSI.[35-37] It was also important to note that NSSI was not always perceived in a shameful way, as participants alluded to NSSI as self-sacrifice for the better good.

Edmondson *et al*.'s systematic review found that over half (60%) of the studies report self-punishment as a function for NSSI.[31] Glassman *et al*. reported that individuals who experience repeated insults, excessive criticism and physical abuse may develop a similarly reproachful view of themselves and, through modelling the behaviour of those who maltreated them, self-abuse whenever they disapproved of their own behaviour.[38] However, participants did not always describe self-punishment in such direct terms but in a spiritual sense that may have stemmed from cultural/religious influences. The forms of self-punishment we found were reminiscent of self-flagellation practiced by some religious sects as penance to remind themselves of their sin, depravity or vileness in the eyes of God or to commemorate martyrdom.[39] Other forms of self-punishment were akin to 'magical control' that Osuch *et al*. had identified as a factor in their Self-Injury Motivation Scale.[40]

The theme of sensitising oneself when experiencing depersonalisation has also been described in the literature as an anti-dissociation function that serves to interrupt or terminate a dissociative episode or for 'feeling generation' as a way to elicit emotional or physical sensations to allow the individual to feel alive and 'real' again. The theme of control and mastery represents the various ways in which individuals derive esteem and control from NSSI, and encompasses functions such as 'mastery' and 'boundary control' identified in previous literature.

These two themes of sensitising oneself and control are similar in that both protect against the loss of identity or paradoxically promote self-preservation. However, while the sensitising function is used to 'ground' oneself when the individual feels depersonalised, the theme of control and mastery relates to enhancing one's identity. Shearer reported that the motive 'to do something that only I have control of and no one else can control' was rated among the top three motivations for NSSI by 22% of women with borderline personality disorder.[41] Similarly, Briere and Gil found that 26% of psychiatric patients reported having a feeling of 'ownership of their body' as their reason for NSSI.[2]

Self-harm as a cry for help: Lastly, NSSI was used as a form of communication to elicit care and concern or to exert interpersonal influence. Various surveys using the four-function model of NSSI[42] have consistently shown that social functions are the least endorsed functions. However, it is an empirically well-established motivation. Edmondson *et al.*'s systematic review identified that 87% of studies reported evidence of interpersonal influence.[31] According to Nock, failure in communication or to attain the desired response may occur owing to a lack of ability to communicate the message clearly

or because of an environment that is hostile or unreceptive to the message.[13] Thus, NSSI represents a high-intensity, high-cost mode of communication that is used when spoken words or other less intense modes fail.

The qualitative exploration of motivations of NSSI among our sample of young psychiatric outpatients provides insights into the inter- and intrapersonal context of self-harm. Our study showed that while the majority of motivations overlapped with those in existing literature, there were unique nuances (i.e. NSSI as paying in advance for future misfortune or as a way to make sense of their predicament) within the main themes that warrant further investigation.

The study has several limitations. NSSI is commonly associated with alexithymia. While many of the participants were able to articulate their self-harm experiences, others had difficulty expressing themselves clearly. Reliance on a single face-to-face interview may have limited the interviewers from eliciting a comprehensive account from individuals who were reticent or faced difficulty constructing a coherent story. Moreover, the results of this study represent the experiences of the participants in the study and are not generalisable.

In conclusion, NSSI is complex, and discerning one motivation for the behaviour from another is challenging owing to commonalities and overlaps between the functions. However, elucidating these functions is essential to deepen our understanding of this behaviour and uncover the various motivations behind indulging in this behaviour. The results affirm existing literature that individuals who engage in NSSI experience difficulties in emotion regulation and distress tolerance, and that psychosocial treatment has been advocated for these conditions to improve their skills in problem solving, communication, anger management and conflict resolution.[20] Targeting their cognitive patterns and schemas are other areas for intervention.[16,43] In addition, our findings point to the possible role of the family in contributing to attachment difficulties and the development of NSSI. Thus, family therapy may be helpful for families to understand patterns that give rise to NSSI in the individual, how the behaviour impacts the family system and how family members may provide better support to each other.[44,45] Future studies can then examine the efficacy of such psychosocial treatment options and further explore motivations for NSSI that have rarely been described in the literature, such as paying in advance for future misfortune and NSSI as a way to make sense of the individuals' predicament, which were uncovered in this study.

We suggest that the training curriculum of healthcare professionals needs to be modified in order to improve their attitudes, knowledge and confidence in providing services to individuals presenting with NSSI. Healthcare professionals, especially those dealing with adolescents, should have knowledge of the causes and motivations of NSSI, assessment methods and processes, intervention and management of care, and professional practice issues to ensure early detection and holistic management.[46]

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Conflicts of interest

There are no conflicts of interest.

Supplementary material

The appendix is available online.

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APPENDIX

Supplementary Table 1: Sociodemographic and clinical characteristics of participants.

ID	Gender	Age (yr)	Diagnosis	Frequency of NSSI behaviours in the past 12 months, as assessed in the Functional Assessment of Self-Mutilation											Sought any medical attention
				Cut/ carved	Hit	Pulled hair out	Gave self a tattoo	Picked wound	Burned skin	Inserted objects under nail or skin	Bit self	Picked skin to point of drawing blood	Scraped skin	Total NSSI	
A1015	Female	24	Mood disorder	2	3	4	1	0	0	0	0	4	0	14	Yes
A1020	Female	21	Borderline personality disorder	5	0	1	0	4	4	0	0	0	0	14	Yes
A1021	Female	26	Schizophrenia	6	3	0	0	0	0	0	3	0	0	12	No
A1069	Male	29	Mood disorder	5	20	20	2	10	10	5	10	20	20	122	No
A1092	Male	26	Mood disorder	9	12	0	0	0	0	0	0	0	0	21	No
A2062	Female	17	Adjustment disorder	10	0	0	0	0	0	0	0	0	0	10	No
A2063	Female	17	Mood disorder	5	2	0	0	3	0	0	0	0	0	10	No
A2072	Female	25	Adjustment disorder	3		0	0	0	0	0	0	3	0	6	No
A2090	Female	18	Mood disorder	5	8	0	0	20	0	30	20	0	0	83	Yes
A3011	Male	19	Adjustment disorder	200	5	1	0	0	0	0	0	0	10	216	Yes
A3028	Male	22	Adjustment disorder	3	100	0	0	0	0	0	0	0	0	103	No
A3063	Female	17	Anxiety disorder	20	50	100	0	20	0	2	5	5	5	207	No
A3080	Female	17	Mood disorder	10	0	0	0	0	0	0	0	0	0	10	No
A4010	Male	21	Adjustment disorder	9	0	0	0	2	0	0	0	0	0	11	No
A4021	Male	19	Anxiety disorder	3	5	0	5	0	0	0	0	0	0	13	No
A4028	Female	18	Mood disorder	20	5	0	0	0	0	0	0	0	0	25	No
A4052	Female	17	Mood disorder	15	0	0	0	0	0	0	5	0	20	40	No
A4060	Female	17	Borderline personality disorder	30	10	1	1	30	2	0	2	5	5	86	Yes
A4073	Female	25	Mood disorder	6	7	0	0	2	0	0	0	0	0	15	No
A4080	Female	26	Mood disorder	100	10	0	0	200	5	0	0	2	0	317	Yes