ABSTRACT

Objective: Our objective was to make a mini review of the evidence and some recommendations about a holistic and compassionate approach for children and adolescents with self-harm.

Methods: We performed a PubMed research on reviews, guidelines and trials published in English between 2006 and 2021. The keywords used were: self-harm, child and adolescent.
Results: Self-harm is a common problem in young people with serious consequences. Nevertheless, this problem is underdiagnosed, with only a minority of young people using health services. There is a strong correlation between self-harm behaviors and suicide, with part of suicide deaths occurring in young people with a history of self-harm. These behaviors result from an interaction between genetic, biological, psychological, social and cultural factors, with the relevance of the stress diathesis being increasingly defended. There are several risk factors associated with self-harm, for example the existence of family and child adversities, the presence of family history and the observation of self-harm in others. Conclusion: Despite the importance inherent to self-harm behaviors, there is not a lot of literature with effective approaches and interventions for young people with these behaviors. However, a complete and compassionate observation and approaching of the patients is essential, especially in this age.

Keywords: mini-review, self-harm, suicide.

ABSTRACT
Objective: O nosso objectivo era fazer uma mini revisão das provas e algumas recomendações sobre uma abordagem holística e compassiva para crianças e adolescentes com auto-flagelação.
Métodos: Realizámos uma investigação PubMed sobre revisões, directrizes e ensaios publicados em inglês entre 2006 e 2021. As palavras-chave utilizadas foram: auto-flagelação, criança e adolescente. Resultados: A automutilação é um problema comum nos jovens com consequências graves. No entanto, este problema é subdiagnosticado, sendo que apenas uma minoria de jovens utiliza os serviços de saúde. Existe uma forte correlação entre comportamentos de automutilação e suicídio, com parte das mortes por suicídio ocorrendo em jovens com histórico de automutilação. Estes comportamentos resultam de uma interacção entre factores genéticos, biológicos, psicológicos, sociais e culturais, sendo cada vez mais defendida a relevância da diátese do stress. Existem vários factores de risco associados à automutilação, por exemplo a existência de adversidades familiares e infantis, a presença da história familiar e a observação da automutilação nos outros. Conclusão: Apesar da importância inerente aos comportamentos de auto-flagelação, há muita literatura com abordagens e intervenções eficazes para os jovens com estes comportamentos. No entanto, é essencial uma observação e abordagem completa e compassiva dos pacientes, especialmente nesta era.


1 INTRODUCTION

Hawton et al. (2012) define “self-harm” as an intentional self-poisoning or self-injury, regardless of the motive or the extent of the suicidal intention (1). This definition includes suicide attempts and nonsuicidal self-injury (NSSI), whose main difference is the presence or absence of intention to die, respectively (2).

The term NSSI corresponds to a direct destruction or deliberate alteration of body tissue without any suicidal intention (3, 4). In the International Statistical Classification of Diseases and Related Health Problems (ICD 10) these behaviors are not defined as an independent disorder, but they are seen as a symptom (3).
Even if there are differences, suicide attempts and NSSI are related (2, 5). The literature shows that adolescents can initiate NSSI and suicide attempts simultaneously (2). In addition, the presence of NSSI is a risk factor for subsequent suicidal behaviors, and in some studies can be found the occurrence of thoughts about suicide before the occurrence of NSSI (1, 2, 6).

2 EPIDEMIOLOGY

Suicide is the second leading cause of death in the 15-29 age group, although there are ethnic differences that may justify differences in the prevalence of each country (4, 7).

Despite representing an important public health problem, few is known about the global prevalence of suicide and self-harm in children and adolescents (4). In addition, the existing epidemiological studies on self-harm have methodological inconsistencies, particularly regarding the definition used, with some studies separating NSSI and suicide attempts and others in which these two categories are included, not allowing to compare results (2, 5, 6). In this article, we choose to highlight data from studies related to self-harm (the two categories included).

Self-harm is common in young people (1, 5, 8, 9). International community-based studies show that 10% of adolescents report the occurrence of self-harm, with some young people showing associated suicidal thoughts (1, 8). This frequency has been increasing over the last decades (1). In the review carried out by Lim et al. (2019) the lifetime prevalence of self-harm was 13.7% (4). The authors of this study point to the great heterogeneity that exists between the included studies (4, 5). A self-harm meta-analysis estimates that the prevalence of these behaviors varies between 5.5% and 30.7% among young people aged between 12 to 20 years (5). Even so, it is estimated that this problem is underdiagnosed, since only 1 in 8 adolescents with self-harm resort to health services (1, 8).

Self-harm is more common in female adolescents (1, 4, 6, 8, 9). As for age, there is a significant increase in the prevalence of self-harm above the age of 12, especially in girls, making the female-male ratio between 12 and 15 years old from 5-6:1 (1, 5). This ratio decreases with age as behaviors become more common in boys and decrease in girls (1). Although it is known that the presentation to hospital after self-harm in young people under 12 years old is rare, it is difficult to determine the prevalence of such behaviors in this age group due to a lack of literature (1). Self-harm rates are higher in adolescents from lower socio-economic groups (1, 9). The occurrence rates of these behaviors in children and adolescents are also higher in low- and middle-income countries, but the occurrence is also significant in high-income countries (4, 10).
These behaviors tend to be repeated, with more than half of the young people who present to hospital for self-harm having a similar past history (1, 8). Predictors of repetition are the use of cuts such as self-injurious behavior, the presence of depression, exposure to self-harm, a history of sexual abuse and concerns related to sexual orientation (1).

It should be noted that self-harm behaviors are strongly associated with suicide, with 40-60% of suicide deaths occurring in people with a past history of self-harm (5, 8, 9). Hawton et al. (1999), in his case series study, demonstrated that 80% of young people who died by suicide showed self-harm behaviors in the year preceding death (8).

The methods used are variable, including self-cutting, self-battery, self-poisoning and jumping from heights (1, 6). Although self-cutting is the method most used by adolescents in general, self-poisoning is the method most used in adolescents who present to health services (1, 5, 8).

Recent studies demonstrate that the use of cuts as self-harm behavior is an important risk factor for suicide, as well as the male sex, having a history of self-harm and having received psychiatric treatment (1, 8). Even if girls are at a higher risk for suicide attempts, boys appear as a risk factor for suicide, since they adopt behaviors with greater lethality (4). All these facts show the importance of a complete, competent and compassionate observation and approach of these patients (8).

It should be borne in mind that most of these self-harm behaviors cease in early adulthood (1, 6). The persistence of these behaviors is more common in females and is associated with the repetition of behavior in adolescence (1, 6). Studies show that adolescents with repetitive NSSI have an increased risk of using dysfunctional emotional regulation strategies, such as substance abuse, even after the end of these behaviors (6).

3 RISK FACTORS AND MOTIVATIONS

The investigation related with the reasons that lead to these behaviors is still scarce, with most of the studies focusing on risk factors for the behavior, in detriment of the biopsychosocial mechanisms for them (5, 8).

A set of genetic, biological, psychological, social and cultural factors are associated with self-harm, and the most current theories point to the importance of stress diathesis in these behaviors (1). Specifically, they argue that an increased risk comes from a combination of biological, personality and cognitive vulnerability and exposure to negative life events (1).
Among the main reasons for these behaviors are the escape, the punishment or the relief in the face of unbearable feelings or situations, and some refer to the desire to die (in the case of suicide attempts) (2, 5, 8, 11).

The distinction between factors associated with the development of thoughts of self-harm or suicide (eg, feeling of defeat, hopelessness) and those that increase the likelihood of occurrence of the act itself (eg, impulsiveness, observation of such behaviors in third parties) is increasingly applied (1). It should be noted that many of the risk factors found are also present in individuals without these behaviors, which is why they are not specific or sensitive to predict them (2).

Family and childhood problems, negative parenting behaviors, as well as physical or sexual abuse during childhood and adolescence, are associated with self-harm (1, 3, 6, 9, 11, 12, 13). Parental factors related to alcohol abuse, presence of attention deficit hyperactivity disorder (ADHD), criticism and a low degree of compatibility and deligence have been associated with NSSI in children (3). The existence of a family history of self-harm also represents a risk factor (1, 2, 9, 11).

Exposure to negative life events is a crucial factor for these behaviors, with young people who self-harm reporting more stressful life events compared to those who had self-harm thoughts but do not act on them (1, 8). In particular, bullying is seen as a strong risk factor that can lead to self-harm (1, 3, 6, 12, 13). Even suicide attempts in late adolescence or early adulthood are related to interpersonal difficulties during adolescence (1, 9, 6, 11).

Likewise, the observation of self-harm in third parties increases the risk of self-harm in children and adolescents, in what is known as the Werther effect (1, 3, 6, 8, 9, 11). A possible explanation is that the observation of this behavior in others works as a behavioral model for vulnerable individuals (1). Similarly, vulnerable individuals can live in the same environment, sharing stressors, and self-harm appears in these cases as a response to a shared stressful event (1). In NSSI case, this social contagion plays a role in the initiation of behaviors, nevertheless their maintenance is more related to intrapersonal factors (6).

These behaviors are also associated with problems related to sexual orientation (1, 6, 12, 13). Homosexual and bisexual adolescents have a four times higher risk of suicide attempts throughout their lives than heterosexual ones, according to the literature (1).

Recent theories point to the importance of psychological mechanisms such as coping and emotional regulation strategies for the occurrence of self-harm (8). Therefore, several psychological factors can be associated with these behaviors, such as feelings of entrapment, defeated, lack of belonging, as well as the perception of being a burden (1, 11). Maladaptive
coping strategies, self-criticism and perfectionism, impulsivity, hopelessness and low self-esteem are also associated with a greater vulnerability to self-harm (1, 5, 8, 11).

A number of psychiatric disorders are more associated with self-harm, namely depression, ADHD, anxiety disorders and substance abuse (1, 11). The association between ADHD and the increase in suicidal behaviors in male adolescents also appears to be due to the impact of this disorder on the severity of other comorbid disorders (1). In a German study with female patients, the most common comorbidities were depression, social phobia, post-traumatic stress disorder and borderline personality disorder (3). Smoking is also associated with self-harm in adolescents, with a 4 times higher risk of suicide attempts for smokers in certain studies (1). The association of self-harm in adolescents with chronic organic disease is also described (12).

According to Hawton et. al (2012), family history of suicide or self-harm, history of prior harm, contact with other people with these behaviors, expressed suicidal ideation, access to methods for self-harm or suicide and lack of social support are factors to be aware of in the evaluation (1).

4 ASSESSMENT

Pediatricians who work in emergency services are often the first contact for children or adolescents at risk, so they are crucial in the approach of self-harm, namely in the identification of risk factors, in the proposal of interventions and in the facilitation of future treatment (12).

The self-harm diagnosis is fundamentally based on clinical presentation (3). A review of several international and national guidelines by Gilmour el al. (2019) concluded that these highlight the adoption of general strategies for the prevention and approach of suicide and self-harm (10). Although they consider young people as a priority population, they do not specifically address this age group (10).

The National Institute for Health and Care Excellence (NICE) guideline recommends that all individuals with self-harm should be evaluated regarding the risk of repetition of the act and regarding as well their clinical, psychosocial and physical needs (8).

The first step involves a physical investigation, with the provision of the necessary physical care and the psychological assessment should not be delayed until after the medical treatment is complete, unless it must be instituted immediately in life-threatening situations (3, 14).

All medication or objects that may be cutting instruments must always be removed when approaching the individual with self-harm, regardless of the type (13).
It is proposed that substance misuse is a strong independent risk factor for suicide attempts (15). However, most articles refer to the abuse of an association of substances (that is alcohol and drugs) with suicide attempts (16). It is not clear whether the misuse of alcohol is the primary risk factor, or whether the misuse of substances is the main concern (13). In 2009, a study drew attention to the fact that alcohol abuse screening can be useful in assessing risk in adolescents (17). The question arises whether screening for alcohol and/or other substance abuse makes sense in all adolescents with self-harm accompanied by suicidal intent (13). The NICE guidelines suggest a screening for substances in the blood and/or urine, according to the toxicity tests available at the center in question (14).

A psychopathological investigation is necessary, including the exploration of suicidal ideation, being important, in an initial phase, the distinction between NSSI and attempted suicide (3, 9, 13).

Considering their link to similar future behaviors and suicide, it is extremely important to assess depression, feelings of hopelessness and the current and past history of NSSI and suicide attempts (8). For health professionals who are not specialists in mental health and who provide emergency care to children and adolescents, it is possible to explore key indicators such as signs of anxiety or depression in young people, such as feelings of hopelessness, loss of pleasure in activities and existence of constant and serious concerns, as advised by the Royal College of Psychiatrists (2010) (13).

In addition, it is essential in an initial approach to assess stress levels and the respective coping strategies of children and adolescents, in order to ensure that, at a later stage, optimized support is offered depending on the individual (13).

In the case of adolescents, in addition to the story told by them, it is important to take into account other sources of information, such as parents, caregivers/legal representatives or teachers (12).

In assessing the probability of repetition, it is necessary to take into account the method used, with the cuts associated with a higher risk of suicide (1, 3, 5, 8, 9). It is crucial to explore the reasons that led to self-harming, ranging from the death wish, the escape of feelings or the desire to obtain reaction from others. Therefore, correctly identifying the reasons can help health professionals to assess the risk of subsequent acts (9, 13). It should be noted that NSSI and a suicide attempt are separate entities, with different intentions and functions (3).

Most assessment tools to assess the immediate risk of self-harm and suicide demonstrate reduced validity and applicability, since the cut-offs are not well defined, being of little use in approaching non-psychiatric emergency services (12, 18). The isolated use of these
assessment tools to calculate the risk of future repetition of these behaviors and the need for treatment is not recommended, as they can be used together or as a way of guiding a psychosocial history and a risk assessment according to the recommended by the NICE guidelines (8).

It should be noted that young people find difficult to talk about their behaviors and feelings, and it is important to maintain an empathic attitude, free from negativity and judgements (8). The literature showed that there are health professionals who have a negative attitude towards these behaviors, making their training and education essential for the awareness of self-harm and suicide (8).

A randomized study demonstrated a greater therapeutic adherence with the use of a therapeutic assessment composed of the standard assessment combined with a brief intervention involving a diagram of reciprocal roles, core pain and maladaptive processes, identification of the target problem and exploration of motivation for change (8).

5 INTERVENTION

International guidelines have some discrepancies regarding the intervention for self-harm in young people. The NICE guidelines recommend that all adolescents under the age of 16 who exhibit self-harm behaviors should be hospitalized and evaluated by a specialist in child's and adolescent mental health (9, 10). The American Academy of Child and Adolescent Psychiatry (AACAP) argues that high rates of hospital readmission are described in children and adolescents with self-harm and there is no evidence to support the effectiveness of hospitalization in order to reduce future self-harm (2). Therefore, according to AACAP, hospitalization is reserved for cases of self-harm with suicidal ideation (2).

Studies on effective interventions in adolescents with self-harm are rare, especially those related to psychotherapeutic treatment (3, 6, 8). The therapies that have been shown to be effective were cognitive behavioral therapy, dialectical behavioral therapy for adolescents and therapy based on mentalization (2, 3, 6, 8, 19). Currently, dialectical behavior therapy is the only one with well-established evidence for the treatment of adolescents with self-harm behaviors (2). This therapy identifies the function of reducing emotional distress in behavior and finds ways to achieve this function safely using effective and healthy coping strategies (2).

The use of group-based psychotherapy versus usual treatment has been investigated in randomized clinical trials, with ambiguous results, with one study demonstrating the effectiveness of group psychotherapy in self-harm repetition and two showing little benefit in adding this therapy to usual care. (1, 8). This therapy may not adequately address the
psychological processes underlying these behaviors, and doesn't represent an advantage in reducing self-harm behaviors (8, 9).

Individual psychological therapy in adolescents with self-harm, as well as home-based family therapy, didn’t show significant differences in the repetition of self-harm at follow-up (1, 8, 20).

A German guideline created in 2015, points out a set of elements that must be taken into account in the psychotherapeutic approach of adolescents with self-harm, even though they refer only to those without suicidal ideation, namely: developing motivation for change, psychoeducation, identification of precipitating and maintenance factors, teaching the patient of strategies to modify their behavior and of techniques for conflict resolution and treatment of coexisting mental disorders (3, 6). Since individuals may have difficulty identifying and implementing adaptive coping strategies at the expense of self-harm when they are in a crisis, a written safety plan helps the individual to select and use strategies, being used in short-term treatment, empirically, with a reduced risk of suicide (2).

The use of pharmacotherapy has shown no efficacy in NSSI (3). The role of a series of psychopharmacological interventions for short-term sedation in states of high tension is defended by some authors (3). In addition, pharmacotherapy is indicated for the treatment of associated mental disorders (3, 20). Given the high prevalence of depressive disorder in individuals with self-harm, antidepressants seem to be possible candidates to prevent recurrence (20). Mood stabilizers can also be a possibility, considering that there is evidence of an anti-suicidal effect of lithium when used in patients with affective disorders (20). Anti-psychotic medication, particularly in low doses, can be considered, especially in those with repetitive self-harm behaviors and/or with a diagnosis of borderline personality disorder (20).

Since poor parental supervision is associated with increased risk among adolescents, AACAP recommends that they should be supervised by a trustworthy and supportive adult (2).

In addition to the adoption of restrictive measures during the approach in an emergency or hospital setting, these must be maintained in the period after discharge, with the removal or limitation of potential life-threatening objects or medication that can be used for intoxication, with the parents an important role in this phase of the approach (2).

Parental involvement is important in relation to the reduction of risk factors, namely in reducing family conflict or in addressing the theme of bullying at school, for example (2). In the latter case, attentive parents can be preponderant in seeking timely medical help when needed (2).
6 CONCLUSION

Self-harm behaviors in young people represent an important public health problem. Observing and approaching these patients in a complete, competent and compassionate way is essential. Likewise, and taking into account that we can still verify negative attitudes towards self-harm, is extremely important the training in self-harm and suicide for health professionals.

In assessing self-harm there are several aspects to take into account, such as the method used and the reasons that led to the behavior. Self-harm treatment in adolescents is based on the immediate provision of necessary physical care and a subsequent psychotherapeutic and supportive approach, with the use of pharmacotherapy only when necessary.

However, further research is needed regarding self-harm interventions in adolescents, especially psychological ones. It would also be necessary to have more studies about the tools that can be used to risk stratification for self-harm with suicidal ideation for adolescents admitted in emergency services.

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COMPETING INTERESTS STATEMENT

The Author(s) declare(s) that there is no conflict of interest.

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RESEARCH ETHICS APPROVAL

This study does not involve human participants, and because of that a Research Ethics Approval is not necessary.
REFERENCES


LIST OF ABBREVIATIONS

AACAP - American Academy of Child and Adolescent Psychiatry
ADHD - Attention Deficit Hyperactivity Disorder
NICE - National Institute for Health and Care Excellence
NSSI - Nonsuicidal Self-injury