

MODEL AND STRATEGY OF ADOLESCENT SELF-INJURY CRISIS INTERVENTION: AMETA-ANALYSIS

¹*Lan Zhensong

ABSTRACT--Self-harm and suicide behaviors get recognized as major public health concerns, and WHO has ranked the burden of self-inflicted injuries as the significant leading reasons for disability-adjusted life years. Adolescence is a stage of a heightened risk of suicide, interventions that can reduce suicidal risk need to be made available to this age group who self-harm more often. Preventive measures that aid adolescents need to get instituted at the onset of adolescence and for peer groups since these young adults often ask for support from friends. The study aimed to review the models and strategies for interventions of NSSI in adolescents. All treatments studied-development individual cognitive-behavioral therapy and pharmacological interventions for young people were found to be similar to the typical interventions provided in the settings of treatment where the research was carried out. Additional interventions such as involvement of family members have also some evidence suggesting they may be effective.

Keywords-- Non-Suicidal Self-Injurious Behavior; NSSI; Influencing Factors; Intervention Patterns and Strategies; Cognitive Therapy; Meta-analysis

I. INTRODUCTION

Self-harm in adolescents is the main social and healthcare problem. It is, therefore, a representation of vital morbidity, is often recurrent, and has a strong connection to NSSI. It again causes considerable healthcare costs. Most nations currently have suicide prevention approaches; all involve a focus on improved patients' management presenting with self-harm because of the increased danger of suicide and increased levels of distress and psychopathology.

Non-suicidal Self-Injury (NSSI) is used in the description of all self-poisoning intentional actions such as self-injury or self-poisoning, irrespective of the level of suicidal intent or any kind of motivation (Bentley et al., 2014). thus it involves actions intended to cause death, those with no suicidal intentions, and the ones mixed motivation (Bentley et al., 2014). NSSI is the main concern in adolescents (Bentley et al., 2014). Unlike suicide, in several nations, NSSI in adolescents happens far, usually in females compared to males. This phenomenon is not common with young people below the age of twelve years. NSSI becomes increasingly common in females such that the ratio of females to males is five or six to one in young people between twelve and fifteen years of age (Bentley et al., 2014). This ratio is thought to be due to the rise in depression prevalence in young adolescent females and the consumption of alcohol as well as engagement in sexual activity in both females and males. The gender ratios

¹ School of History and Social Studies, Hechi University, China, National Child Development Research Centre, Sultan Idris Education University, Malaysia, lanzhensong3027@gmail.com; Tel.: +601118960908.

reduce in the older teenage years as the habit gets more often in males and rates degree off in females. NSSI is more common in young adults most recently (Bentley et al., 2014).

NSSI is different from traditionally sanctioned self-injury such as intentional tattooing or piercing rather than form and by injurious agent (tattooing and piercing are most commonly done by another person instead of oneself, while the opposite is typically true for NSSI) (Grech and Axiak, 2016). Although usually linked with the term 'cutting,' the prevalent forms among adolescents involve scratching, punching, and object banging as well as cutting with the conscious intention of self-harm and burning. Injuries imposed on the eyes, face, breast, neck in the jugular area, for example, maybe clinically signaling more considerable psychological distress than when harms get inflicted elsewhere (Grech and Axiak, 2016). Most of the adolescents that report repeat self-harm are also saying applying many methods and several body locations (Grech and Axiak, 2016).

Despite the burden and prevalence of suicidal occurrences among young people, the response of the health system is from optimal. There is a gulf existing between practice and research evidence, and interventions associated with limited evidence get considered as the best practice within clinical management (Brent et al., 2013). These involve the use of no-suicide contracts, which get written or verbal agreements by the person not to get involved in self-harming actions, and emergency green cards, which offer assured access to twenty-four-hour clinical readmission on demand. Again, the discovery of telephone crisis hotlines is also becoming widespread in developed nations.

Despite recent advances in the treatment and understanding of the self-harm and relationships between suicide and self-harm as well as suicidal risk attempt, advances to reduce suicide death levels is still elusive, with no substantive decrease in the suicidal rate of deaths over the past sixty years (Brent et al., 2013). As a result, to extend the previous literature reviews on prevention for suicidal behavior and frequent self-harm in youth, this paper offers a meta-analysis of the model and strategy of adolescent self-injury crisis. It also considers the intervention of specific social and psychological therapeutic interventions in lowering both non-suicidal and suicidal self-injury in adolescents.

Theoretical models have generally addressed NSSI or suicidal behavior, rather than the more profound construct of NSSI in adolescents (Brent et al., 2013). The review and meta-analysis seek to update and extend various notable studies of self-harm and suicidal behavior in young adults that never involve meta-analyses and mainly focused on suicidal, non-suicidal self-injury only or social factors linked with self-harm. For instance, psychologists and other experts can care for patients by following the various health intervention processes. The process can involve the setting of goals and making a plan for an individual. Such interventions assist psychologists in using their experience, knowledge as well as critical-thinking skills in deciding on the most appropriate response on self-injury in adolescents. Interventions can majorly focus on behavioral functioning, physiological needs, promoting safety, and caring for the family. Therefore, psychologists and multi-disciplinary such as sociologists' teams have the task to care for the total victim and follow specific intervention approaches that concern every area of the life of the person. Different types of interventions, such as systems of action, including technical, communicative, and critical responses, are crucial interventions in reducing the prevalence and characteristics of self-injury in adolescents.

Jacobson and Gould (2007) researched the epidemiology and phenomenology of non-suicidal self-injury among adolescents. Research suggests that non-suicidal self-injury is more pronounced among young adults and adolescents compared to older adult samples. This article critically reviewed the research to address the epidemiology and phenomenology of NSSI among adolescents. The findings of the study indicated a lifetime NSSI prevalence ranging from 13.0 percent to 23.2 percent. The reasons for NSSI engagement included eliciting

attention and regulation of emotion. Again, NSSI correlates included a history of depression, hostility, sexual abuse, alexithymia, dissociation, and suicidal behaviors.

One of the major approaches to the conceptualization of self-injury gets built around the cognition process. This pattern assumes that people with this habit learn to regard anxiety feelings as evidence of actual danger. According to Coelho and Wallis (2010), the desire for self-harm can result similarly to panic disorder. This result implies that cognitive biases may develop, leading in people increasingly make interpretations of bodily sensations connected to depression. As a result, these individuals consider strong emotional feelings as threatening. A study done by Davey et al. (1997) assessed 100 students for self-injury, cognitive bias, and bodily sensations made use of a suite of questionnaires (Coelho and Wallis 2010). The analyses of these researchers revealed a relationship between self-injury measures and a bias to report and interpret bodily sensations of anxiety as dangerous.

The control of intense feelings such as shame and depression depends on motor responses and the processing of multisensory that appear to be automatic and happen without conscious cognizance. The interpretations of a person's symptoms of the body can serve to differentiate shame and arousal sensation. According to Coelho and Wallis (2010), the results of Davey et al. (1997) discovered a significant relationship between self-injury measures and a habit to make interpretations of body sensations of anxiety as frightening. These results led the authors to conclude that cognitive biases increasingly cause the person to make interpretations of feelings of the body as threatening, and this may be a mechanism where a deep-seated desire for self-harm develops (Coelho and Wallis, 2010).

The study could not conclude on such bias evident for social stimuli or external stimuli (Coelho and Wallis 2010). Therefore, the researchers summarized that in this case of the cause of self-injury, people might interpret various bodily sensations as symptomatic of anxiety. This situation circumstances may happen and lead the person to relate these symptoms with the probability of imminent disastrous self-harm. For example, when they stand on a chair or look down a spiral stairway (Coelho and Wallis 2010). Therefore, frequent adolescents involved in self-harm may have biases in judgments and interpretations such that they seem to overestimate threats and have doubts in their ability to cope with anxiety when depressed or shamed.

In a biological aspect, researchers have identified various genetic related factors as significant contributors to the development of self-harm. According to Kapfhammer et al. (2015), although there is no isolation of a specific gene responsible for self-harm at the moment, scholars have found various genetic anomalies among adolescents suffering from this problem. For instance, genetic predisposition describes schizophrenia based on the theory of triggering events. In this model, a particular portion of individuals possesses the genetic trait that results in mental illness. On the contrary, most individuals who possess this trait are not susceptible to self-harm until a triggering event occurs. The triggering event is dissimilar to each individual but is usually a time or trauma of severe stress. The emotional and psychological reaction toward a specific shock causes mental illness but in individuals with a genetic predisposition (Kapfhammer et al., 2015). Therefore, the biological explanation based on genetics explains the reasons for significant events in violently different ways.

NSSI research proposes that NSSI is more common among young adults and adolescents than in samples of older adults (Jacobson and Gould, 2007). Usually, the average age NSSI onset in clinical samples and community get approximated between 12 and 14 years of age (Bresin and Schoenleber, 2015). Typically, rates are low in the general population. However, the level is also high among adults diagnosed with borderline personality condition (Bresin and Schoenleber, 2015).

Since this topic is sensitive, an estimate of the ratio of high school-aged young people who engage in NSSI varies greatly, and no certainty is nearest to the actual level. Various studies get about 6 to 8 percent of young adults and adolescents making current reports, chronic self-injury, while other researchers also predict higher

figures of around 12 to 20 percent. A survey of a Scottish self-report in schools discovered pupils between age 15 and 16 reported self-harm by 14 percent (Hagell, 2013). It is more common among young women (probably 3.4 times within this study area), although also approximates of the proportion between them and young men vary, perhaps the proportion could be similar in the later teen years (Hagell, 2013).

Studies indicate that young people engage in self-harm as a way of managing strong feelings and releasing tension. For instance, marginalized young people such as those in custody, those affected by sexual exploitation or victims of abuse are more at danger since they are more at risk of anxiety and depression and maybe have lesser role models to demonstrate alternative, effective coping interventions. Again, these populations of young adults may also be aware of others who apply self-harm themselves or attempt suicide, aspects that have gotten recognized as a danger in several studies.

Examining Non-Suicidal Self-Injury in college samples has gained rates of prevalence, nearly 25 percent (Brent et al., 2013). Observed lifetime NSSI rates among adolescent samples have ranged between 2.5 percent and 46.5 percent in community samples and between 13 percent and 82.4 percent in in-patient samples (Brent et al., 2013).

A theoretical model for comprehending the motivations for Non-Suicidal Self-Injury is a functional approach consideration to NSSI. This approach makes considerations of consequences and antecedents of NSSI, enabling for better comprehension of the psychosocial correlates linked with NSSI, such as depression and anxiety (Anestis et al., 2012). According to Nock and Prinstein's model of four-function, the functions of NSSI can be classified by two dichotomous elements, including positive or negative and automatic or social. The positive factor involves a favorable stimulus addition, and the negative involves the removal of aversive stimulus while automatic and social involves intrapersonal and interpersonal, respectively (Bentley, Nock and Barlow, 2014). This research investigated this model's validity with incarcerated populations. The model of four-function has contributed to the field's comprehension of the development and maintenance of Non-Suicidal Self-Injury.

NSSI is a significant health problem in adolescents, with the rates being relatively high in the teenage years. Essential contributors to NSSI include psychological, social, familial, cultural factors, as well as vulnerability and psychiatric aspects (Hasking et al., 2017). The contagion and media effects are also significant contributors to the internet having an essential contemporary part. Prevention of NSSI requires both targeted approaches focusing on high-risk groups and universal measures aimed at adolescents in general.

There exists little proof of the effectiveness of either pharmacological or psychosocial treatment, with the specific controversy surrounding the efficacy of the antidepressant (Hasking et al., 2017). Limitations of access to means for NSSI are significant. The main challenges involve the establishment of higher comprehension of the elements that contribute to NSSI in adolescents, particularly mechanisms underlying contagion and the new media effect (Hasking et al., 2017). The recognition of successful prevention measures targeted at adolescents and the development of effective interventions for those who engage in NSSI are paramount needs.

Self-harm is a specifically adolescent phenomenon. It affects all age groups; however, most studies have continuously indicated a peak in mid-adolescence. Most individuals who self-harm are between 11 and 25 years of age. Again, this phenomenon is a critical public health concern as it creates and reflects emotional distress. It is difficult to approximate how common is self-harm since it is a private behavior. Suicidality is problematic among LGBTQ individuals (Zetterqvist et al., 2013). Provided with this evidence plus the overlap in NSSI and suicidality rates, it is evident that NSSI is primarily a coping mechanism for young individuals.

There is a shortage of reliable information on young individuals who self-harm since it is a sensitive topic. As a consequence, the evidence base on interventions for NSSI is not conclusive, although it seems probable that interventions such as those based on behavioral therapy or 'problem-solving therapy' could teach on coping with this problem, and that offers quick response to the crisis. Again, young people need to know where to seek guidance

for fast access to assistance if they get hurt. As a result, the current meta-analysis offers a summary of the emerging literature describing the model and strategy of adolescent self-injury crisis intervention by considering findings of various experimental studies carried out in a school group to verify the effectiveness of the intervention.

II. METHODS

This study developed a systematic review strategy and followed the reporting guidelines of PRISMA. Departures from protocol involved the meta-analyses addition which got added to offer further associations summary. The study excluded ETHOS as a database since it is restricted to UK studies.

First, scoping searches got conducted to assist the determination of applicable search terms. As a consequence, four databases were searched, including Medline, PsycINFO, Web of Science, and CINAHL Plus. These databases were essential in the identification of relevant published studies. The following search terms were applied related to NSSI: self-harm OR self-injury*OR DSH OR self-mutilation. Boolean operator “AND” was used to combine the search terms for the two groups. Again, the studies’ database ProQuest was searched in the identification of related researches in the grey literature. Initially, titles and abstracts got screened independently by the researcher. Afterward, the whole text of the remaining articles got to read for eligibility for inclusion. This step was conducted separately with two scholars, with differences raised through communication with a third author. A list of references to these papers was then hand searched, and the corresponding authors were addressed through emails to determine any relevant eligible studies.

Over three-quarters of all adolescents reporting any NSSI often involve the form of repeat NSSI (> 1 episode), an approximated 7 to 8 percent of adolescents make reports on current repetitive NSSI (Whitlock, 2010). Generally, nearly a 25 percent of all young people having NSSI are reporting NSSI normally not more than twice in their lives, and since even a single episode of NSSI is necessarily correlated abuse and comorbid conditions histories such as psychiatric distress or suicide, there may be some adolescent populations whereby single NSSI incident get understudied. However, available proof indicates that the majority (80 percent) of individuals with repeat NSSI history reported stopping the behavior within five years of starting and 40 percent report ending within 12 months of starting (Whitlock, 2010).

III. RESULTS

3.1. Risk Factors for Self-Harm in Adolescents

While relations between self-injury crisis intervention and NSSI are largely understudied, various recent researches have qualitatively investigated LGBTQ persons' endorsement of NSSI and their knowledge of the functions of behavior. For instance, most bisexual and lesbian explain engaging in NSSI for social and automatic reasons normally endorsed among the heterosexual group, for instance, childhood traumatic or negative experiences and painful emotions suppression (Bentley, Nock and Barlow, 2014). However, some discussed experiences were particular to bisexual and lesbian women, including not able to conform to society's notions of gender expectations hence 'feeling different' (Bentley, Nock and Barlow, 2014). These populations also report being teased, feeling self-loathed, and feeling of confusion due to the feeling of being different. Interestingly, engagement of NSSI contributed to their sense of feeling different over and above their minority-associated stressors (Groschwitz et al., 2015). These results were essentially replicated in related qualitative research of LGBTQ young adults' self-destructive behaviors, involving NSSI (Groschwitz et al., 2015).

Another social influence aspect is the sexuality of an individual about values and norms common in society, or the person has internalized (Grech and Axiak, 2016). Various studies have indicated non-heterosexual orientation to get strongly associated with the risk of NSSI engagement (Grech and Axiak, 2016).

Clinically, self-harm offenders can get considered as having similar underlying motivations, although positive social reinforcements are more common in non-offenders and automatic positive reinforcements more common in offenders. Provided that the motivations underlying offender and non-offenders' populations are similar for non-suicidal self-injury; similar treatment strategies can be effective with both groups.

Again, other studies suggest that the prevalence of NSSI among young people might be because of changes in the development of the brain in adolescence. Additionally, adolescents, especially young women, have increased anxiety and depression rates compared to younger children, and NSSI is associated with these types of mental health problems. Estimations suggest nearly 1 out of 8 adolescents who engage in NSSI will end up in emergency care at the hospital. The role of social media is often considered to raise concerns; however, social media can also assist those in need of support and information since these young people feel ashamed and stigmatized.

Deliberate self-harm is broad and ranges from non-suicidal intent behaviors (but with the intent to relieve tension or communicate distress) through to suicide (Kumar, 2017). Some 8 percent to 14 percent of adolescents will engage in NSSI at some time in their life, and another 20 percent to 45 percent of older adolescent's report having experienced the urge of suicide at some time (Kumar, 2017).

Concerning the global spread of NSSI, the use of the internet and particularly the use of social media has been of rising interest to scholars to comprehend and spread of NSSI content. It has indicated that self-harm associated search terms were sought almost 42 million times annually on Google (Wang et al., 2017). In the top 100 YouTube videos containing NSSI got viewed over 2 million times with 90 percent of non-character videos indicating photographs of NSSI and 28 percent of character videos showing the action of NSSI (Wang et al., 2017). In Yahoo analysis, the answers ' database, indicated that the majority of questions related to self-harm were 30.6 percent, which got posted seeking NSSI validation hence offering a possible answer to the purposes of having NSSI content posted (Wang et al., 2017). This perception is further getting support from recent research, reporting that 11 in 3 youths between 14 and 25 years of age with NSSI history reported assistance-seeking for self-harm (Wang et al., 2017). Thus, the online activity concerning self-harm can be considered as beneficial (for instance, lowering social isolation, lowering urges to self-injure, receiving encouragement for recovery), or can also be potentially dangerous (for example, social reinforcement of self-harm, triggering urges to self-injure). Future studies should explore the initiatives required to be taken to apply the beneficial potential of online resources and limiting harmful consequences.

3.2. Reasons for Adolescents Engaging in NSSI

Generally, ideas for NSSI break down into three major categories, including social, biological, and psychological. Psychological causes are the most commonly centered around and considered to reduce psychological distress, pain, and refocusing a person's attention away from adverse incitement. Much less known, although sometimes cited, are explanations like "so a person would pay attention" and "to have surge or rush of energy." Both highlight the social and biological roles in maintaining self-harm. Models of social function point to the significance of considering NSSI as a behavior done to satisfy several functions simultaneously, most of which are emotion regulation (intrapersonal). However, some of them are naturally basically interpersonal. Additionally, studies discover that interpersonal elements also contribute significantly to the maintenance of NSSI.

Biological models of function get inclined to contrite basically on the NSSI role in the control of endogenous opioids. The model of homeostasis of NSSI, for instance, argues that people who engage in NSSI may be having chronically lower than normal endogenous opioids levels. This model considers NSSI as fundamentally remedial- it portrays an effort to restore normal levels of opioids. Reduced levels of opioids may be a result of a history of trauma, neglect, abuse, or can be biologically brought about by other processes. These models are instrumental in

increasing comprehension of how and why some people consider that they are relying on self-harm behavior for emotion regulation. Identification of unique antecedents to self-harm is hard because it shares with several young people risk habits predisposing elements such as childhood adversity, emotion dysregulation, and antecedent psychiatric or comorbid disorders. In clinical settings, NSSI is highly linked to child abuse.

Again, the study found that NSSI is also associated with disorders of eating, post-traumatic stress disorder, depression, substance abuse, and anxiety disorders. While most of these studies reflect comorbidity in clinical settings, more recent researches of such associations in community settings of youth document same outlines, but at considerably reduced association levels. And, findings of one study discovered that 44 percent of participants with current self-injury behavior showed no existing clinical conditions of comorbidities. Despite the NSSI studies considered relatively low, empirical signs of progress in self-injury in recent years have found knowledge of solid foundation on basic epidemiological parameters.

Many are usually creating adolescent practice, which is generally called *a common* NSSI. This category of self-injury involves Non-Suicidal Self-Injury was found to be compulsive, episodic, or repetitive. The constant form of NSSI is ritualistic and seldom premeditated, including pulling of hair or trichotillomania. Episodic kind of NSSI happens so often and without getting identified as a person who self-harms.

Again, the repetitive form gets performed in a systematic manner and with ego recognition as a person who self-injures. Common NSSI can be moderate, severe, or mild based on the injury lethality. For instance, the U.S studies tend to discover that common NSSI lifetime occurrence ranges from 12 percent to 38 percent among adolescent populations in secondary schools and 12 to 20 percent in late young adults and adolescents' populations. Scholarship of NSSI consistently indicates an average onset age of between eleven and fifteen years with a usually distributed onset age ranging between 10 and 24.

3.3. Models and Strategies for Interventions of NSSI in Adolescents

Treatment for NSSI in adolescents may involve pharmacological interventions, psychosocial interventions, or a combination of both approaches. Provided the role of psychological influences and especially problem-solving deficits in adolescents who engage in NSSI, psychological interventions applied in the treatment of these young people normally include short individual or group based psychological therapy (such as problem-solving therapy or cognitive-behavioral therapy), contact interventions and family therapy. The process of treatment may be different regarding the initial management, continuity, treatment location, as well as frequency of treatment of contact with the therapist. Again, consideration of variation among nations in terms of service availability to offer such interventions is also an important factor considered. As a consequence, there is no standard psychosocial treatment for NSSI in adolescents. However, treatment generally comprises of a combination of support, assessment, relatives' involvement, and individual psychosocial therapies in high-income countries.

A crisis intervention model and strategy is often most suitable. However, compliance can be a challenge since the self-harm may have possessed a positive impact by offering momentary relief from a difficult condition. Again, the take-up of treatment relies greatly on parental attitude and background, which could comprise of negative views and denial of psychological assistance. a home-based program for treatment proved to overcome some of these concerns.

3.3.1. Cognitive Behavioural Therapy-Based Psychotherapy

This intervention involves problem-solving therapy (PST) and cognitive behavioral therapy (CBT). CBT assists patients in identifying and critically evaluating the techniques in which they evaluate and interpret disturbing emotional events and experiences to help them change their approach to handling the problems. It is achieved in three stages: the patients are initially helped to change how they make interpretations and evaluations

of distressing emotions. Secondly, there is learning of strategies to assist the patients to change their way of thinking about the meanings and consequences of the emotions; and finally, having the benefits of modified emotions and events interpretations, patients get assisted in changing their habit and implementing positive functional behavior.

Problem-solving therapy, which is an integral part of cognitive behavior therapy, assumes that maladaptive and ineffective coping habits may get overcome by assisting the patient in learning skills to effectively, constructively, and actively get answers to the problems they experience every day hence reduce self-harm. Problem-solving therapy involves motivating patients to rationally and consciously make problem appraisal, modify or reduce the negative emotions obtained by problems, and implement various ways of addressing the problems. Treatment objectives include supporting patients in developing a positive problem-solving orientation, apply rational strategies of problem-solving, lower the tendency to prevent problem-solving, and lower the impulse problem-solving strategies use. Take-home assignments are a crucial component of cognitive-behavioral therapy-based psychotherapy.

Problem-solving therapy is commonly applied with young people and has the benefit of being easily and directly comprehended. Applying problem-solving techniques and rehearsing on strategies of coping can assist the adolescents when they get confronted with a future dilemma. The problem-solving technique can as well get extended to involve the entire family. Family interventions get structured, normally last 5 or 6 sessions, and can be based at home. Important factors comprise of the improvement of specific social and cognitive skills in promoting the sharing of emotional control, feelings, and negotiations between members of the family. Besides, role play may be a significant additional technique. It is sensible to expect crises by making provision for appointment by giving telephone numbers or issuing out a short notice for emergencies. Adolescents who engage in NSSI can also get treated in groups.

The intervention of the cognitive-behavioral model assumes that vulnerability to NSSI can get changed through changing negative thinking, changing suicidal, and problem-solving deficits. The intervention targeted the development of cognitive and behavioral skills for dealing with situations that trigger NSSI. Regarding the wide range of psychological, social, and psychiatric problems that patients are having, the intervention intends. Considering the wide range of psychiatric, psychological, and social problems that patients present with, the intervention was intended to give therapists a clear framework to orient themselves within the therapy. At the same time, the intervention needed to be flexible enough to be of help to a broad range of patients, including those with a high risk of repetition of self-harm and high psychiatric comorbidity levels.

In the presence of depression, cognitive behavior therapy (CBT) can be applied. The technique is an effective treatment in adolescents since Prozac (selective serotonin reuptake inhibitor fluoxetine) is effective in these populations. However, considering the risk of further urge for NSSI by overdose, it is better to restrict supplies of this drug to have other members of the family to deal with it, at least initially. Although treatments of in-patient are the care standard for individuals who engage in NSSI, it has never been discovered efficacious in a measured clinical trial. Moreover, controlled CBT interventions researches for NSSI are restricted, and their findings are inconsistent.

3.3.2. Treatment based on drug or other interventions

Having the prevalence of depression in adolescents present to the hospital due to NSSI, pharmacological interventions may comprise of antidepressants. Other pharmacological agents, including anxiolytics and benzodiazepines, can also be prescribed. However, interventions with pharmacological agents are less common compared to treatment with psychosocial approaches, partly because of concerns on the danger of exacerbating.

When school concerns, especially bullying, are common, liaison with the school is vital. Further assistance may get offered by a person in charge of counseling in school. In the situation of learning difficulties, a survey by an educational psychologist can be significant in coming up with appropriate educational alternatives. If the self-harm happens alongside alcohol and substance misuse or violence, particular treatments for these disorders may be shown. Referral to walk-in counseling service or referral to an NSSI agency may be appropriate for older adolescents hence more readily accepted.

IV. DISCUSSION

Theoretical models have typically concentrated either on NSSI or suicidal behavior, instead of the broader construct of self-injury. NSSI theoretical models fully propose that NSSI is kept by adverse reinforcements, characterized by escape from unfriendly internal states, involving emotions like guilt or shame (Bresin and Schoenleber, 2015). Some theorists have established these concepts further by developing a particular role of guilt or shame in the maintenance and etiology of NSSI. For instance, various NSSI may be a result of beliefs on the self as deserving of punishment, which would be a consequence of shame (Ougrin et al., 2015). Schoenleber and Berenbaum (2012), for instance, suggested that people may get involved in NSSI as a way of managing strong feelings of guilt or shame.

Psychological postmortem investigations on suicide indicate that a psychiatric condition (normally depression, hardly psychosis) is present at the moment of death in many young people who die by suicide (Kumar, 2017). A behavioral disturbance history, misuse of a substance, social, family, and psychological concerns are common. There is a strong connection between NSSI and suicide; almost 25 percent to 50 percent of those committing suicides had carried out a non-fatal act before (Kumar, 2017). According to Kumar (2017), self-cutting and self-poisoning are the most common methods for deliberate self-harm by adolescents.

Suicidal behavior theories gave again proposed that strong negative feelings may develop suicidal behavior (Gonzales and Bergstrom, 2013). The interpersonal suicidal theory suggests emotions of burdensomeness are the sources to the urge for suicide, and that emotion of self-hate is a facet of this construct (Anestis et al., 2012). Because shame is the feeling that maybe most synonymous with self-hate, it might thus be relevant in causing suicidal desires. Guilt might be part of the mechanism describing the heightened risk of self-harm within various populations, such as those in puberty (Hughes et al., 2018). For instance, rejection experiences related to belonging to marginalized groups such as lesbians and gay or bisexual get linked with self-harm risk (Sheehy et al., 2019). The present research aims at providing a systematic review and meta-analysis of the existing literature related to self-injury hence its model and strategy among adolescent self-injury. The current work will appraise the weight of evidence on the association between the constructs and Meta-analysis. In addition to focusing on model and strategy, the study also considers some of the various possible crisis interventions.

Effective communication intervention enables respect for individual dignity, values, and rights. The results identify that it makes recognition that individuals are specialists in their life experience. Various communication interventions that could be made available to adolescents who self-injure frequently include the application of communication strategies that influence and inform a person's decisions for a positive outcome. Some of the communication strategies that could apply to this group of people involve both verbal and written approaches. For example, delivering psychotherapy through various forms of communication such as providing psychotherapy via videoconferencing, telephone, instant messaging, and email to influence and empower for healthier choices. Moreover, these resources need professionals to carry out psychotherapy but overcome various challenges like limited availability of local services. Also, alternative communication methods such as through email, visits, or via telephone in managing self-injury increases the quality and convenience of care and similarly while reducing

costs. These can act as a follow-up and involve family members in alternative communication strategies such as emailing, in cases where the young adults have no access to these ways of communication.

V. CONCLUSIONS

From the findings, one of the major approaches to the conceptualization of self-injury gets built around the cognition process. This pattern assumes that people with this disorder learn to regard anxiety feelings as evidence of actual danger. For example, the injuries one might sustain could cause psychological problems such as depression. According to Taylor (2015), depression can result similarly to panic disorder. This result implies that cognitive biases may develop.

Technical interventions such as immersive virtual reality exposure therapy (VRET) can be useful in anxiety disorders. Again, the online virtual world, for instance, second life -saving has been confirmed as a suitable medium for delivering mental health illnesses such as depression. Conversational agents or virtual humans are essential in mental health and is specifically crucial to patients with depression. The images are set to interact with these young adults leading to a stronger therapeutic alliance with an agent. The agents eventually have the potential to offer health information in a non-threatening and supportive way.

This literature searches for models and strategies for treatments NSSI in adolescents has at least two limitations. First off, there were differences in terminology which resulted in search difficulties. several terms have been applied in describing NSSI and most are not particular to NSSI. Some scholars apply these terms in describing suicide behaviors or attempts. There is a comparative lack of literature concerning treatments contrary to the literature concerning incidence. Again, there exists a lack of literature regarding adolescent's interventions as opposed to adults.

VI. REFERENCES

1. Anestis, M. D., Fink, E. L., Bender, T. W., Selby, E. A., Smith, A. R., Witte, T. K., & Joiner, T. E. (2012). Re-considering the association between negative urgency and suicidality. *Personality and Mental Health*, 6(2), 138-146.
2. Bentley, K. H., Nock, M. K., & Barlow, D. H. (2014). The four-function model of non-suicidal self-injury: Key directions for future research. *Clinical Psychological Science*, 2(5), 638-656.
3. Berger, E., Hasking, P., & Martin, G. (2013). 'Listen to them': Adolescents' views on helping young people who self-injure. *Journal of Adolescence*, 36(5), 935-945.
4. Brent, D. A., McMakin, D. L., Kennard, B. D., Goldstein, T. R., Mayes, T. L., & Douaihy, A. B. (2013). Protecting adolescents from self-harm: a critical review of intervention studies. *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(12), 1260-1271.
5. Bresin, K., & Schoenleber, M. (2015). Gender differences in the prevalence of non-suicidal self-injury: A meta-analysis. *Clinical Psychology Review*, 38, 55-64.
6. Coelho, C. M., Cloete, S., & Wallis, G. (2010). The face-in-the-crowd effect: When angry faces are just cross (es). *Journal of Vision*, 10(1), 7-7.
7. Gonzales, A. H., & Bergstrom, L. (2013). Adolescent non-suicidal self-injury (NSSI) interventions. *Journal of Child and Adolescent Psychiatric Nursing*, 26(2), 124-130.
8. Grech, A., & Axiak, S. (2016). Risk factors for self-harm in children and adolescents admitted to a psychiatric hospital in Malta. *Eating Disorders*, 2, 0-9.

9. Auschwitz, R. C., Kaess, M., Fischer, G., Ameis, N., Schulze, U. M., Brunner, R., & Plener, P. L. (2015). The association of non-suicidal self-injury and suicidal behavior according to DSM-5 in adolescent psychiatric inpatients. *Psychiatry Research*, 228(3), 454-461.
10. Hagell, A. (2013). Adolescent self-harm. Research Update. *Child and Maternity Health Observatory. Assoc for Young People's Health*, 13, 1-10.
11. Hamza, C. A., Willoughby, T., & Heffer, T. (2015). Impulsivity and nonsuicidal self-injury: A review and meta-analysis. *Clinical psychology review*, 38, 13-24.
12. Hasking, P., Rees, C. S., Martin, G., & Quigley, J. (2015). What happens when you tell someone you self-injure? The effects of disclosing NSSI to adults and peers. *BMC public health*, 15(1), 1039.
13. Hasking, P., Whitlock, J., Voon, D., & Rose, A. (2017). A cognitive-emotional model of NSSI: Using emotion regulation and cognitive processes to explain why people self-injure. *Cognition and Emotion*, 31(8), 1543-1556.
14. Hawton, K., Witt, K. G., Salisbury, T. L. T., Arensman, E., Gunnell, D., Townsend, E., & Hazell, P. (2015). Interventions for self-harm in children and adolescents. *Cochrane database of systematic reviews*, (12).
15. Hughes, M. A., Knowles, S. F., Dhingra, K., Nicholson, H. L., & Taylor, P. J. (2018). This corrosion: A systematic review of the association between alternative subcultures and the risk of self-harm and suicide. *British journal of clinical psychology*, 57(4), 491-513.
16. 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.
17. Kapfhammer, H. P., Huppert, D., Grill, E., Fitz, W., & Brandt, T. (2015). Visual height intolerance and acrophobia: clinical characteristics and comorbidity patterns. *European archives of psychiatry and clinical neuroscience*, 265(5), 375-385.
18. Kumar, A. (2017). *Psycho-Social Portrait of University Students with the Tendencies of Deliberate Self Harm DSH*.
19. Ougrin, D., Tranah, T., Stahl, D., Moran, P., & Asarnow, J. R. (2015). Therapeutic interventions for suicide attempts and self-harm in adolescents: systematic review and meta-analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, 54(2), 97-107.
20. Ougrin, D., Tranah, T., Stahl, D., Moran, P., & Asarnow, J. R. (2015). Therapeutic interventions for suicide attempts and self-harm in adolescents: systematic review and meta-analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, 54(2), 97-107.
21. Robertson, D. J. (2019). *The philosophy of cognitive-behavioral therapy (CBT): Stoic philosophy as rational and cognitive psychotherapy*. Routledge.
22. Sheehy, K., Noureen, A., Khaliq, A., Dhingra, K., Husain, N., Pontin, E. E., & Taylor, P. J. (2019). An examination of the relationship between shame, guilt, and self-harm: A systematic review and meta-analysis. *Clinical psychology review*, 101779.
23. Van der Sande, R., Buskens, E., Allart, E., Van der Graaf, Y., & Van Engeland, H. (1997). Psychosocial intervention following a suicide attempt: a systematic review of treatment interventions. *Acta Psychiatrica Scandinavica*, 96(1), 43-50.

24. Wang, Y., Tang, J., Li, J., Li, B., Wan, Y., Mellina, C., & Chang, Y. (2017, April). Understanding and discovering deliberate self-harm content in social media. In Proceedings of the 26th International Conference on World Wide Web (pp. 93-102).
25. Whitlock, J. (2010, May 25). Self-Injurious Behavior in Adolescents. Retrieved February 22, 2020, from <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000240>
26. Zetterqvist, M., Lundh, L. G., Dahlström, Ö., & Svedin, C. G. (2013). Prevalence and function of non-suicidal self-injury (NSSI) in a community sample of adolescents, using suggested DSM-5 criteria for a potential NSSI disorder. *Journal of abnormal child psychology*, 41(5), 759-773.