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It's Time to Talk About it

Psychosocial risk factors for suicidality in children and adolescents

Introduction

Several news reports in Kenya have documented the worrying trend of suicidality in children and adolescents. In 2017, a 19-year-old boy set himself a blaze in his parents' home after his father denied him unauthorized access to their family car. News of his death shocked everyone especially his peers who admired his intellectual and social skills as he was a popular boy. In 2014, a 15-year-old boy died by suicide and left a suicide note indicating that despite all the luxuries his parents gave him, he felt "neglected". In November 2018, an 11-year-old boy took his own life under unknown circumstances. At the same time, a 13-year-old boy died by suicide after a fight with a cousin over a television remote control. In March 2019, an 8-year-old boy was found hanging from the roof of their bathroom and had died. No one ever understood why an 8-year-old could take his own life.

Despite the dearth of data on suicide rates in Kenya especially in children and adolescents, the newspaper and social media reports clearly show a worrying trend of suicidal deaths among children and adolescents. Suicide attempts and suicide behaviors go unreported as well given the penalties in Kenyan law for attempting suicide.

Suicide is one of the major causes of death worldwide, and approximately one million people suicide each year. Despite the dearth of data on suicidality in Africa, studies have reported that 3 people in every 100,000 die by suicide in Africa (Mars, Burrows, Hjelmeland, & Gunnell, 2014). In Kenya, it is estimated that 4 in every 100,000 people die by suicide (Bitta et al., 2018). The incidence of suicide attempts peaks during the mid-adolescent years, and suicide mortality, which increases with age steadily through the teenage years, is the third leading cause of death in young people between the ages of 10 and 24

Suicidal acts and behaviours are a matter of great concern for clinicians who deal with paediatric patients with mental health problems. Despite its importance, research on suicidality among children and adolescents has been hampered by the lack of clarity of definition as well as the penalties for attempting suicide especially in African countries**,** and the stigma associated with suicide. Beyond suicidal ideation and suicide plans, there are a number of behaviours in which there is an intention to die, including

- ✓ suicide attempts,
- ✓ interrupted attempts,
- ✓ aborted attempts, and
- ✓ other suicidal preparatory acts.

Suicidal behaviours require not only a self-injurious act, but there must also be a suicidal intent. By contrast, when individuals engage in self-injurious behaviours for reasons other than ending their lives, this behavior is termed non-suicidal self-injury. Deliberate self-harm behaviours comprise self-injurious behaviours regardless their intentionality.

The features of suicidality in children and adolescents are different from those occurring in adults and there is a need for tools to identify those young people at higher risk. Depression is a factor strongly associated with suicidality in this population, but it is not present in all cases, showing that suicidal behaviour is a result of the interaction of multiple factors. Furthermore, not all depressed children and adolescents develop suicidal ideation or behaviour, indicating the importance of, e.g. social and temperamental factors. Predicting which adolescents are likely to repeat their suicidal behaviour would help to establish prevention and intervention strategies for suicidality in children and adolescents.

Biological, psychological, and social factors contribute to a risk profile in children and adolescents (Krysinska and Andriessen, 2014)

Risk factors	Protective factors
Demographic • Age (increase during adolescence) • Gender (more suicidal thoughts in girls, more actual suicides in boys) **Genetic-biological** • Vulnerability for impulsiveness • Vulnerability for feelings of hopelessness and suicidality **Psychiatric problems** • Mood disorders • Drug abuse • Schizophrenia • Eating disorders • Personality disorders • Adjustment disorders **Psychological** • Impulsiveness, perfectionism, low self-esteem • Lack of relativism • Low problem solving skills • Psychological suffering **Life-events and family** • Sexual and physical abuse • Loss and failure experiences • Interpersonal conflicts • Previous suicidal behavior • Accumulation of negative life-events **Availability of means to commit suicide** • Medication, weapons, high rise buildings • Examples of or information about means	**Social support** • Family, friends • School class, extra-curricular activities • Sense of connectedness **Family cohesion** • Mutual engagement • Sense of responsibility **Attitudes, values and norms** • Religiosity • Positive attitude toward self an life • Negative attitude against suicidal behavior • **Mental** • Resilience • Problem solving skills

Review

The list of risk factors converges to a large extent with findings from a recent qualitative review by Carballo et al. (2019) that included 44 studies on suicidality in children and adolescents from very diverse clinical as well as non-clinical samples. The findings of this study are described below.

Psychological factors

Twenty-five of the papers reviewed focused on psychological issues as a key outcome measure. Depression, previous suicidal attempts, and substance abuse were embedded within a large proportion of the reviewed literature.

Depression
Depression is considered a major factor in the etiology of suicidality in children and adolescents, and it has been reported in both clinical and non-clinical samples. Major depressive disorder was associated with a fivefold higher risk for suicide attempts, even after controlling for other disorders, gender, age, race, and socioeconomic status. In addition, results from one study suggest that depressive symptomatology mediates the relationship between hopelessness and suicidal behaviours. Nevertheless, non-depressed adolescents may also report suicidal ideation and/or display suicidal behaviours.

Previous suicide attempt
Converging results from longitudinal studies indicate that a previous suicide attempt is an important predictor of a future suicide attempt, reported in both clinical and non-clinical samples, increasing the risk more than threefold during follow-up. Similarly, results from other prospective studies have shown that prior suicidal behaviour is strongly associated with suicide plans, and a previous history of non-suicidal self-injury may predict the occurrence of future non-suicidal self-injury.

Drug and alcohol misuse
Cross-sectional and longitudinal studies evaluating alcohol consumption among adolescents have consistently shown that alcohol misuse is a risk factor for suicidal behavior in clinical and non-clinical samples. Furthermore, alcohol misuse may trigger

suicidal ideation even in the absence of high levels of depressive symptoms. Relatedly, smoking and abuse of drugs (such as cannabis) may increase the risk of suicidal behaviour, and the risk increases even more when drugs are used simultaneously with alcohol, which occurs quite frequently.

Other psychiatric diagnoses

Suicidal behaviour in children and adolescents may occur in relation to other psychiatric disorders, such as anxiety disorders, eating disorders, bipolar disorder, psychotic disorders, affective dysregulation, sleep disturbances, and externalizing disorders. A growing interest has focused on the study of suicidal behavior in autism spectrum disorders. Risk for suicidality seems to be increased as a function of the number of comorbid disorders. In addition, as illustrated in a follow-up study, rehospitalisation appears to be a strong indicator of a future risk of a suicide attempt.

Other risk behaviours

Suicidality in this age range may be associated with low instrumental and social competence, and having been in a fight in which there was punching or kicking in the previous year.

Adverse life events

Serious adverse life events have been reported as preceding some suicides and/or suicide attempts. They are rarely a sufficient cause for suicide/suicide attempts in isolation, and their importance lies in their action as precipitating factors in young people who are at risk by virtue of, e.g. a psychiatric condition and/or of other risk factors for suicidality as detailed below. In this vein, stress-diathesis models proposed that stressful life events interact with vulnerability factors to increase the probability of suicidal behaviour. Nevertheless, stressful life events vary with age. In children and adolescents, life events preceding suicidal behaviour are usually family conflicts, academic stressors (including bullying or exam stress), trauma and other stressful live events.

Family conflicts

Family conflict has been associated with suicidal behavior, even after controlling for gender, age, and psychiatric disorders. Adolescents with a history of a suicide attempt more frequently than controls report stress related to parents, lack of adult support outside of the home, physical harm by a parent, running away from home,

and living apart from both parents. Other family situations associated with risk for suicidality are: parental suicidal behaviour, early death, mental illness in a relative, unemployment, low income, neglect, parental divorce, other parent loss, and family violence.

Academic stressors

Students who perceive their academic performance as failing seem to be more likely to report suicidal thoughts, plans, threats, and attempts or deliberate self-injury. Perfectionism has been reported as a personality construct that may be associated with suicidality in adult samples. However, results from a pioneering study in children and adolescents suggest that the association between perfectionism and suicidality is mediated by stressful life events (e.g. being bullied) or by other psychological features such as learned helplessness. In Kenya, it is common to hear suicide cases among primary school pupils every time the results of the national exams (Kenya Certificate of Primary Education) are released. Recent reports show that pupils take their own lives after obtaining low marks as per either their expectations or the expectations of their parents and guardians. The Kenyan culture put emphasize on academic excellence as the only sure path to excellence which only put too much pressure on the children making them feel helpless and frustrated when they cannot meet societal demands and expectations and are only left with one option; taking their own lives; to avoid the shame and frustrations when they perform poorly in school.

Trauma and other adverse life events

In addition to family conflicts or academic performance problems, early traumatic experiences and other adverse life events have been associated with suicidal behaviours. A history of childhood sexual abuse is associated with a 10.9-fold increase in the odds of a suicide attempt between the ages of 4 and 12 years and a 6.1-fold increase in the odds of an attempt between the ages of 13 and 19 years. This is confirmed in a study performed among 55,000 respondents in 21 countries regarding childhood adversities that occurred before the age of 18 years and lifetime suicidal behaviour. Sexual and physical abuse were consistently the strongest risk factors for both the onset and persistence of suicidal behaviour, especially during adolescence.

Victims of bullying have higher rates of suicidal behavior and ideation, and some victims may be particularly vulnerable to suicidal ideation due to parental psychopathology and feelings of rejection at home. Change of residence may result in loss of a familiar environment as well as a breakdown of the social network, which

may induce stress and adjustment problems, and therefore, increase the risk of suicidal behaviour.

Other stressful circumstances that may precede suicidal behaviour are peer conflict, legal problems, worries about sexual orientation, romantic breakups, exposure to suicide/suicide attempts, and physical and/or sexual violence among trafficked victims. Stories of University students dying by suicide after rejections or break-ups from their partners is common on Kenyan television and social media.

Temperament and character

Some personality traits have been identified as predisposing factors for suicidality. Neuroticism, perfectionism, interpersonal dependency, novelty-seeking, pessimism, low self-esteem, a perception that one is worse off than one's peers, and self-criticism have been implicated as risk factors for suicidality in adolescents. Similarly, maladaptive coping styles have been described as a risk factor for both depression and suicidal ideation. Impulsivity has emerged as an important issue in suicidality, with 50% of adolescents having only started thinking about self-harm less than an hour before the act itself.

Discussion and conclusion

Suicidality among children and adolescents is a topic of increasing concern, and this is reflected in the strong/substantial increase in the amount of literature assessing suicidality over recent years. While deaths in these populations due to other causes are decreasing, rates of suicide remain high. This highlights the importance of suicidality research and a move to improving and developing suicide prevention strategies.

The majority of publications reviewed indicate that young people with suicidal behaviour had significant psychiatric problems, mainly depressive disorders and substance abuse disorders. The presence of a major depressive disorder increases the risk of suicide attempts. Nevertheless, mood disorders do not explain all suicidal ideation and behaviours, and important distinctions must exist between depressed adolescents who have experienced suicidal ideation but have never attempted suicide and those who have done so. The evidence clearly highlights the complexity of

suicidality and points towards an interaction of factors contributing to suicidal behaviour. Previous history of suicide attempts can identify a population at risk, as does the concurrence of different disorders.

However, predicting which adolescents are likely to repeat their suicidal behaviour is still an area that needs further development. The natural history of suicidal behavior among children and adolescents is not completely delineated. Clearly, more information is needed to understand the complex relationship between risk factors for suicidality and to be able to establish prevention strategies for suicidality in children and adolescents. Prospective studies with adequate sample sizes are needed to investigate these multiple variables of risk concurrently and over time.

Drug and/or alcohol misuse may also increase the risk for suicide attempt. Acute intoxication may even trigger the suicidal act in vulnerable individuals by increasing impulsiveness, enhancing depressive thoughts and suicidal ideation, limiting cognitive functions and ability to see alternative coping strategies, and reducing barriers to self-inflicted harm. In this vein, drug and/or alcohol misuse may act as proximal but also distal risk factors for suicidality and also may mediate or moderate the influence of other risk factors on suicidality. Moreover, common neurobiological vulnerability has been described in depression, impulsivity and drug and/or alcohol use disorders such as a greater serotonergic impairment, which may help explain their frequent co-association and also their relationship with suicidal behaviour, a violent behaviour associated with disturbances in the serotonergic system.

In addition, vulnerability to suicidal behaviour may be, at least to some degree, mediated by some personality traits, such as neuroticism and impulsivity. The association of poor emotional regulation strategies and behavioural impulsivity with suicidal behaviour leads to consider the existence of affective regulation vulnerability among children and adolescents at risk for suicidality. Stressful life events may act as precipitating factors for suicidal behaviour. Our review identified several circumstances, such as family problems and peer conflicts that may exceed the coping strategies of some adolescents. Nevertheless, it is important to note that some investigations suggest that it is the accumulation of stressful life events, and not the presence of one isolated stressful life event that appears to be related to later suicidal behaviours. However, as not all children exposed to stressful life events develop suicidal behaviours, some authors state that suicidality is not simply a logical response to extreme stress, which in turn leads to the hypothesis of a stress diathesis model of suicidal behaviour. Thus, from a suicidal behaviour prevention standpoint,

further investigation is needed to clarify the relationship between stressful life events and suicidality in the paediatric population.

The conclusions that can be made regarding the strength of association between the risk factors presented above this review and suicidality are limited due to the relatively small amount of prospective studies that have been conducted to date. In addition, the majority of clinical studies observed small populations. Publication bias is likely to be present as studies reporting no association between a risk factor and suicidal behaviour may not have been published. Suicidality was not measured by means of the same instrument across all the studies. Similarly, different instruments were used to measure psychopathology or to determine other psychosocial variables, which is another limitation. The age range of participants and sociodemographic variables differs between the different studies making direct comparisons and summaries across studies difficult/troublesome.

In conclusion, the relevant scientific literature addressing psychosocial risk factors for suicidality in children and adolescents suggests that various components and factors may contribute to the risk/development of suicidality and suicidal behaviour in a young person, e.g. impulsivity, mood disorder, substance abuse, history of self-injury, and family and/or peer conflicts, to be considered as a cumulative/interactive process. The identification of paediatric patients at high risk for suicidality and elements of resilience will improve preventative measures in targeted subgroups.

Interventions for Suicidality

Given the substantial information on risk factors for suicidal behavior in children and adolescents, one might hope for good evidence on effective interventions as well. However, a recent review on the best evidence by Hawton et al. (2015) does not confirm this expectation. The review aimed to evaluate the evidence for the effectiveness of psychosocial and pharmacological treatments for children and adolescents who engage in self-harm with a broader range of outcomes, particularly with regards to investigating whether there are specific treatments for children and adolescents who self-harm which have greater benefit compared to routine care in terms of treatment adherence and improvements in psychological well-being. To be included in the review, studies had to be randomised controlled trials of either psychosocial or pharmacological treatments for children and adolescents up to 18 years of age who had recently engaged in self-harm and presented to clinical services.

The evidence from the review showed that there have been surprisingly few investigations of treatments for self-harm in children and adolescents, despite the size of this problem in many countries. Providing therapeutic assessment may improve attendance at subsequent treatment sessions. Only one therapeutic approach - mentalisation - was associated with a reduction in frequency of repetition of self-harm. However this effect was only modest and the trial was small, which prevents us from being able to make firm conclusions about the effectiveness of this treatment. There was no clear evidence of effectiveness for compliance enhancement, individual cognitive behavioral therapy (CBT)-based psychotherapy, home-based family intervention, or provision of an emergency card, nor was there clear evidence for group therapy for adolescents with a history of multiple episodes of self-harm.

The authors concluded that therapeutic assessment, mentalisation, and dialectical behaviour therapy warrant further investigation. While in a single small study, individual CBT-based psychotherapy appeared ineffective, further evaluation of this treatment is also desirable given the favourable results found in adults who self-harm. Given the extent of self-harm in children and adolescents, greater attention should be paid to the development and evaluation of specific therapies for this population.

For now, it seems that addressing factors underlying the tendency toward suicidal behaviour might be the best approach. For example, there are effective interventions for depression, bipolar disorder, substance use, family conflict, and child abuse. Using these effectively may be a first step in addressing suicidality.

References

Carballo, J.J., Llorente, C., Kehrmann, L., Flamarique, I., Zuddas, A., Purper-Ouakil, D. et al. (2019). Psychosocial risk factors for suicidality in children and adolescents. *European Child & Adolescent Psychiatry.* https://doi.org/10.1007/s00787-018-01270-9

Krysinska, K., & Andriessen, K. (2014). Beïnvloedende factoren voor suicidaal gedrag bij jongeren: risicoverhogende en beschermende factoren [Risk and protective factors for suicidal behaviour among the young]. In: K. Andriessen, K. Krysinska, & C. Andries (Eds.), Zelfdoding bij kinderen en jongeren: Preventie en hulpverlening bij suicidaal gedrag (pp.54-67). Tielt: Lannoo Campus.

Hawton, K., Witt, K.G., Taylor Salisbury, T.L., Arensman, E., Gunnell, D., Townsend, E., van Heeringen, K., & Hazell. P. (2015). Interventions for self-harm in children and adolescents. *Cochrane Database of Systematic Reviews*, Issue 12. Art. No.: CD012013. DOI: 10.1002/14651858.CD012013.

Bitta, M. A., Bakolis, I., Kariuki, S. M., Nyutu, G., Mochama, G., Thornicroft, G., & Newton, C. R. (2018). Suicide in a rural area of coastal Kenya. *BMC psychiatry, 18*(1), 267

Mars, B., Burrows, S., Hjelmeland, H., & Gunnell, D. (2014). Suicidal behaviour across the African continent: a review of the literature. *BMC public health, 14*(1), 606.