SUICIDE AND SELF-HARMING BEHAVIOUR

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On April 8, 1986, 18-year-old Yukiko Okada jumped to her death from a seven-story building. The reason for the suicide is still unknown. Her death was followed by many copycat suicides in Japan (referred to at the time as the "Yukiko Syndrome"). Okada, a singer, was adored by millions of fans in Japan.

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In many countries suicide is one of the leading causes of death among children and adolescents. Identifying young people at risk and offering effective treatment is a major concern of mental health policies. This chapter includes a review of suicidality in children and adolescents. Non-suicidal self-injury will also be addressed, but the major focus will be on attempted and completed suicide. The review refers to epidemiology, risk factors and etiological features, clinical presentation, assessment, treatment and prevention. Because clinical issues are emphasized this review does not include an overview of the neuropsychobiology of suicidality.

The term "non-suicidal self-injury" does not include self-mutilation or other actions causing bodily symptoms with the pure intent of eliciting medical care or advice (Munchhausen syndrome) or malingering (to achieve some benefit).

Table E.4.1 Coding of non-suicidal self-injury, suicide attempts and suicide as an "external cause of morbidity and mortality" according to ICD-10 (X60–X84)*

X6..	Intentional self-poisoning by and exposure to:
X60.	Non-opioid analgesics, antipyretics and antirheumatics
X61.	Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs not elsewhere classified
X62.	Narcotics and psychodysleptics [hallucinogens] not elsewhere classified
X63.	Other drugs acting on the autonomic nervous system
X64.	Other and unspecified drugs, medicaments and biological substances
X65.	Alcohol
X66.	Organic solvents and halogenated hydrocarbons and their vapours
X67.	Other gases and vapours
X68.	Pesticides
X69.	Other and unspecified chemicals and noxious substances
X7../X8..	**Intentional self-harm by:**
X70.	Hanging, strangulation and suffocation
X71.	Drowning and submersion
X72.	Handgun discharge
X73.	By rifle, shotgun and larger firearm discharge
X74.	Other and unspecified firearm discharge
X75.	Explosive material
X76.	Smoke, fire and flames
X77.	Steam, hot vapours and hot objects
X78.	Sharp object
X79.	Blunt object
X80.	Jumping from a high place
X81.	Jumping or lying before moving object
X82.	Crashing of motor vehicle
X83.	Other specified means
X84.	Unspecified means

*World Health Organisation, 1996.

Definitions

- *Suicidality* refers to the cognitions and activities of persons seeking their own death, including thoughts, actions or omissions
- *Suicide* (from the Latin *sui caedere*, to kill oneself) means the act of a person intentionally causing his or her own death
- *Suicide attempt* denotes non-fatal acts or preparations intended to result in death. The suicidal act may have been abandoned, interrupted or was unsuccessful
- *Parasuicide* refers to a non-habitual, potentially life-threatening self-harming behaviour which is performed without the intention to kill oneself. Because the behaviour is non-suicidal, some authors prefer the terms "deliberate self-injury", "deliberate self-harm" or "non-suicidal self-injury" (NSSI) (in this chapter the term non-suicidal self-injury is used).

Because of the indirect nature of the self-harm consequences, unprotected intercourse, high-risk behaviors (e.g., extreme forms of downhill riding, illegal car racing) or intoxication by psychoactive substances are not included even if an intention to self-destruct may be present. For descriptive purposes, non-lethal suicide attempts and non-suicidal self-injury are classified using the same codes.

The mere listing of codes in Table E.4.1 does not indicate how frequent these different methods of self-harm are in children and adolescents. Methods commonly used are presented in the box. These methods comprise non-lethal self-harming behaviors – like pinching, scratching or biting – as well as highly lethal methods, which are mostly associated with clear suicidal intent (e.g., use of firearms, jumping from high places). However, from a clinical point of view, it is crucial to differentiate between suicide attempts and non-suicidal self-injury (see Table E.4.2).

Frequently used methods of self-harm

(Non-lethal suicide attempts and non-suicidal self-injury) (Greydanus et al, 2009)

- Drug overdose
- Poisoning
- Cutting
- Other forms of self-mutilation
  - Self-hitting
  - Pinching
  - Scratching
  - Biting
  - Burning
- Shooting oneself
- Hanging
- Jumping from high places
- Jumping into wells

Intent

The key difference between deliberate self-injury and suicide attempt is in the *intent* to end one's life. For example, a 14 year old girl takes a small overdose of paracetamol intending to kill herself, although she does not succeed (*suicide attempt*). Another 14 year old girl takes a large overdose of paracetamol because she is angry and upset. She did not want to kill herself (*non-suicidal self-injury*). Further, some non-suicidal self-harming acts may actually result in death – by ignorance or miscalculation (the latter 14 year old was not aware of the toxic effects of paracetamol and actually died as a result). It has to be kept in mind that both forms of self-harm may overlap: individuals with suicide attempts may also show non-suicidal self-injuring behavior and vice versa.

Regrettably, evaluating intent is often difficult in clinical practice. This has been a major barrier in researching this topic. The Columbia Classification Algorithm for Suicide Assessment (C-CASA) – a standardized suicide rating system developed for the evaluation of suicidality in antidepressant trials – has been shown to be reliable, transportable, and the FDA has mandated that it should be used in psychotropic and other drug trials (Posner et al, 2007). Although this is a research instrument, it may also be useful in clinical practice, at least by standardizing the terminology. C-CASA definitions and selected training examples are shown in table E.4.3.

Table E.4.2 Differences between suicide attempt and non-suicidal self-injury

Suicide attempt	Non-suicidal self-injury ("parasuicide")
• Intending to end one's life	• No suicidal intent
• May be impulsive, but in most of the cases there is a chronic feeling of hopelessness or loneliness	• Emotional state is acute anger, despair or intolerable distress
• More severe and life-threatening forms of self-destructive behaviours are typical (e.g., self-poisoning, hanging, jumping, use of firearms)	• Less severe and mostly not life-threatening forms of self-destructive behaviours are typical (e.g., skin lesions by biting, cutting, burning or freezing)
	• Typically, the person is aware that the behaviour may cause serious injury, but is not life-threatening
• There is a clear risk that suicide attempts are repeated, but to a lesser frequency than non-suicidal self-injuries	• Recurrent self-injury is common

Table E.4.3 Columbia Classification Algorithm for Suicide Assessment (C-CASA): definitions and training examples*

Classification/ Category	Definition	Example
Suicidal events		
Completed suicide	A self-injurious behavior that resulted in fatality and was associated with at least some intent to die as a result of the act.	After a long argument with his girlfriend, which resulted in the end of their relationship, the patient collected a rope and rode his bike to an isolated area where he fatally hanged himself. A suicide note was later found.
Suicide attempt	A potentially self-injurious behavior, associated with at least some intent to die, as a result of the act. Evidence that the individual intended to kill him/herself, at least to some degree, can be explicit or inferred from the behavior or circumstance. A suicide attempt may or may not result in actual injury.	After a fight with her friends at school, in which they discontinued speaking with her, the patient ingested approximately 16 aspirin and eight other pills of different types on the school grounds. She said that she deserved to die, which was why she swallowed the pills.
Preparatory acts toward imminent suicidal behavior	The individual takes steps to injure him- or herself, but is stopped by self or others from starting the self-injurious act before the potential for harm has begun.	The patient had run away from home overnight because his father had gone to school and retrieved a recent "bad" report card. He was fearful of his father's reaction. Upon his return home, a 5- to 6-hour argument with his parents ensued, and he took a vegetable (broad, sharp) knife and went to his room. He reported putting the knife to his wrist but never puncturing the skin.
Suicidal ideation	Passive thoughts about wanting to be dead or active thoughts about killing oneself, not accompanied by preparatory behavior.	Active thoughts: The patient reported to the doctor that he was thinking about hanging himself in the closet. He was taken to the hospital and admitted.
Non-suicidal events		
Self-injurious behaviour, no suicidal intent	Self-injurious behavior associated with no intent to die. The behavior is intended purely for other reasons, either to relieve distress (often referred to as "self-mutilation," e.g., superficial cuts or scratches, hitting/banging, or burns) or to effect change in others or the environment.	The patient was feeling ignored. She went into the family kitchen where her mother and sister were talking. She took a knife out of the drawer and made a cut on her arm. She denied that she wanted to die at all ("not even a little"), but she just wanted them to pay attention to her.
Other, no deliberate self-harm	No evidence of any suicidality or deliberate self-injurious behavior associated with the event. The event is characterized as an accidental injury, psychiatric or behavioral symptoms only, or medical symptoms or procedure only.	The patient had a cut on the neck from shaving.
Indeterminate or potentially suicidal events		
Self-injurious behaviour, suicidal intent unknown	Self-injurious behavior where associated intent to die is unknown and cannot be inferred. The injury or potential for injury is clear, but why the individual engaged in that behavior is unclear.	The patient cut her wrists after an argument with her boyfriend (no further information).
Not enough information	Insufficient information to determine whether the event involved deliberate suicidal behaviour or ideation. There is reason to suspect the possibility of suicidality but not enough to be confident that the event was not something other, such as an accident or psychiatric symptom. An injury sustained on a place on the body consistent with deliberate self-harm or suicidal behavior (e.g., wrists), without any information as to how the injury was received, would warrant placement in this category.	A child who "stabbed himself in [the] neck with a pencil." The event may have been deliberate as opposed to accidental, as suggested by "stabbed," but not enough information was provided to determine whether the event was deliberate.

*Posner et al (2007); only one of several C-CASA examples is cited.

EPIDEMIOLOGY

According to World Health Organization statistics about one million people worldwide die from suicide every year (mean mortality rate: 16 per 100.000), that is, one death every 40 seconds. In some countries suicide is the second leading cause of death in the 10 to 24 years age group. For example, in Germany only accidents – mainly fatal traffic injuries – are a more frequent cause of death in adolescents aged between 15 to 19 years (Elsässer, 2010). The relative weight of suicide as a cause of death varies between countries and regions according to the impact of a variety of factors (see Table E.4.4). Nevertheless, suicide remains an important cause of death among adolescents and young adults worldwide.

As an example of nation-specific variations in suicide rates, European data are presented in Figure E.4.1. The mean rate of suicide among 15 to 19 year olds for 27 European countries in 2009 was 4.9 per 100.000 (males: 7.4; females: 2.3). Suicide rates varied widely from 1.0 (Greece) to 20.2 (Lithuania).

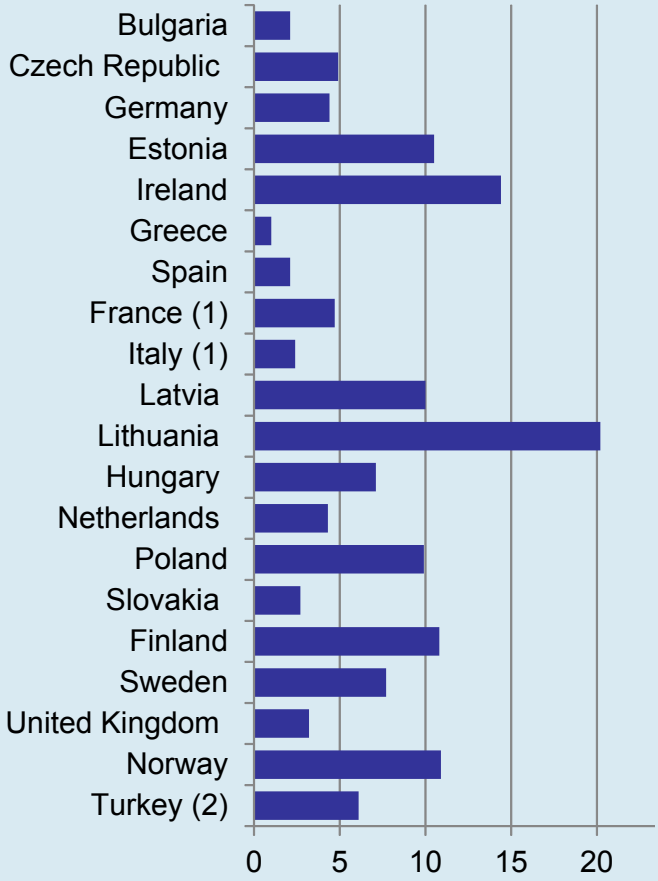
Because of unreliable allocation – e.g., inaccurate ascertainment, religious or cultural attitudes about suicide – reported suicide rates are likely to underestimate the problem. Moreover, these figures do not include suicide attempts, which occur 10 to 20 times more frequently than completed suicides. Serious suicide attempts are estimated to occur in about 3% of adolescents in Western societies. Keeping these variations in mind, general statements on the epidemiology of suicide may be invalid for specific populations, regions and time periods.

Table E.4.4 Main causes of death in adolescents and young adults in decreasing order of frequency*

Africa:	**Southeast Asia:**	**South America/Caribbean:**
1. AIDS	1. Unintended Injuries	1. Homicide/War
2. Other infections	2. Other Infections	2. Unintended Injuries
3. Homicide/War	3. AIDS	3. Suicide
4. Unintended Injuries	4. Suicide	4. Other Infections
5. Suicide	5. Homicide/War	5. AIDS
Western Pacific:[1]	**Europe:**	**Eastern Mediterranean:**[2]
1. Unintended Injuries	1. Unintended Injuries	1. Unintended Injuries
2. Suicide	2. Suicide	2. Other Infections
3. Other Infections	3. Homicide/War	3. Homicide/War
4. Homicide/War	4. Other Infections	4. AIDS
5. AIDS	5. AIDS	5. Suicide
North America:		
1. Unintended Injuries		
2. Suicide		
3. Homicide	[1]Australia, New Zealand, China, Japan, Korea, Malaysia, Micronesia, Philippines, Singapore, Vietnam, and others in this area	
4. Cancer		
5. Other Infections	[2]Afghanistan, Egypt, Iraq, Jordan, Saudi Arabia, Israel, and other Middle East Countries	
6. AIDS		

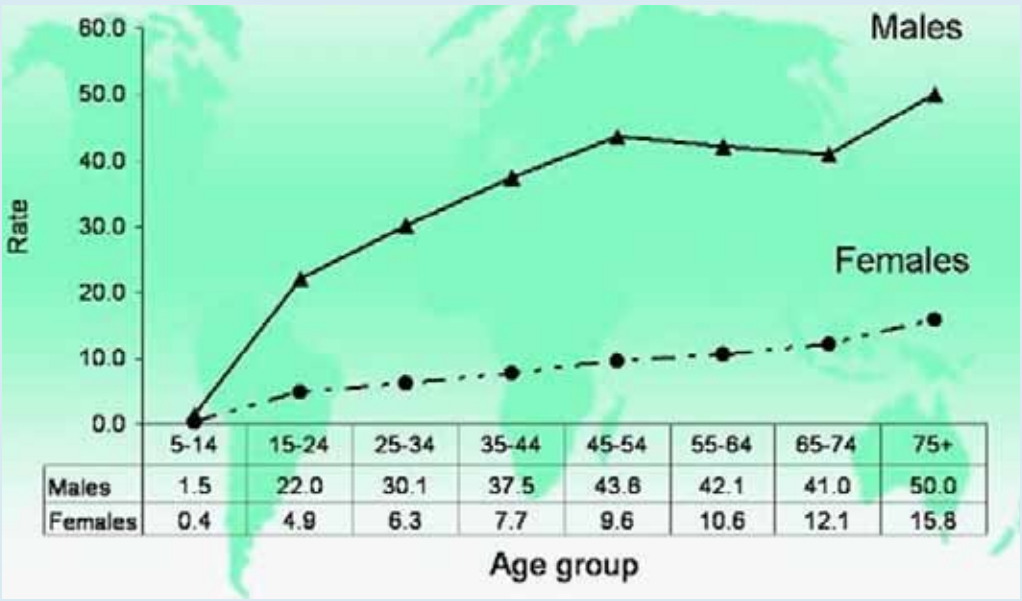
*Adapted from Greydanus et al (2009).

Figure E.4.1 Suicide death rate in Europe (selected countries): Adolescents aged 15 to 19 years (death rate per 100.000 persons)



(1) Italy, France: data from 2008
(2) Turkey: data from 2010; source: TurkStat; Suicide Statistics 2010
Data from 2009; source: Eurostat.

Figure E.4.2 Suicide rates (per 100.000) by gender and age.



	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+
Males	1.5	22.0	30.1	37.5	43.6	42.1	41.0	50.0
Females	0.4	4.9	6.3	7.7	9.6	10.6	12.1	15.8

Data from 2000; Source: WHO

Qualifications need to be made with respect to:

- Age
- Gender
- Specific regions and countries
- Ethnicity, and
- Secular trends.

Click on the picture to access WHO suicide statistics.

Age

Globally, during the last few decades suicide rates have been highest in the elderly (see Figure E.4.2). However, according to World Health Organization's Suicide Prevention Program (SUPRE) website, in some countries suicide rates among young people have increased so much that adolescents and young adults represent the group at highest risk for suicide. This refers to a third of all countries and holds for more and less industrialized nations. Therefore, clearly elevated suicide rates in the elderly seem not to be present worldwide. High suicide rates among adolescents and young adults can be seen, for example, in New Zealand and Japan. In pre-pubertal children completed suicide is very rare. Children become able to understand the concept of suicide from the age of 8 years and become capable of carrying it out, leading to increasing rates of completed suicide in pubertal children and young adolescents. Relatively low suicide rates in children may be accounted for by the age-dependent absence of, or lower exposure to major risk factors (e.g., mental illness, substance-related disorders) or the protection offered by a close relationship with the family.

Gender

Overall, rates of completed suicide are higher in males than in females. This holds true for all age groups, with a male to female ratio of about 4:1 in adolescents and young adults. However, gender ratios vary between countries. There are regions in which the gender distribution of completed suicides is similar (e.g., China). In Turkey, male to female ratios of 0.6:1 for ages up to 14 years and 1.1:1 for ages 15-19 years have been reported (TurkStat; Suicide Statistics 2010, www.tuik.gov.tr, 2011; Turkey's Statistical Yearbook 2009, www.tuik.gov.tr, 2010). Suicide among young girls is alarmingly high in the west coastal region of India (Kanchan et al, 2009). Reasons for the relatively high suicide rates among young females in some countries in Asia may partly be due to the easy access and use of pesticides, particularly lethal, and the limited access to emergency medical services (by contrast, in Western European countries the use of the less lethal analgesics is far more prevalent in suicidal females).

Globally higher rates of completed suicide in males are associated with more violent means (e.g., guns, hanging) and the pattern of risk factors in males (e.g., impulsive aggression, alcohol misuse). However, with respect to gender ratio the opposite is true for suicide attempts, which are far more common in females than in males (sometimes referred to as the "gender paradox").

Specific regions and countries

Regional variations in suicide rates reflect varying environmental and social risk factors. Reported suicide rates vary widely between countries; even within quite homogenous states there are regional differences (e.g., relatively high rates in Saxony in Germany). The highest rates worldwide are reported for Eastern

European Countries, among them countries with a traditionally high suicide rate since the end of the 19th century (e.g., Estonia). Relatively low rates are reported for the Gulf States.

Besides differences in the recording of suicides, variations suggest country-specific patterns of risk and protective factors (e.g., socio-economic disadvantage, rapid cultural change), geography and climate (e.g., light exposure and depression), access to lethal means (e.g., poisons or firearms), use of alcohol and drugs, ethnicity, and religious beliefs.

Low suicide rates in the Gulf States may reflect religious norms and low alcohol use. In general, a gradient has been described whereupon agnostics show the highest suicide rates, Muslims have the lowest, while Christians, Buddhists and Hindus are in the middle (Bertolote & Fleischman, 2009).

Suicide rates are high among minority groups, particularly those who have undergone rapid social change, acculturation or have become disenfranchised as a result of colonization (e.g., American Indians, Australian aborigines, Inuit). For a comprehensive review the reader may refer to Colucci and Martin (2007).

Secular trends

An increase in the rate and absolute number of suicides has been described in the last decades (Bertolote & Fleischman, 2009). However, this effect is not consistent. For example, across OECD countries (the Organization for Economic Co-operation and Development comprises 32 industrialized nations) there has been a slight decline in suicide rates overall. Some countries with traditionally high rates (e.g., Hungary) have shown a sharp decline while others with low rates (e.g., Korea, Japan) have shown a sharp increase. The reasons for these changes are not well understood but may include rapid social or economic changes (e.g., unemployment). However, major burdens for a population may also have the opposite effect. For example, in Germany suicide rates decreased considerably in the years following the 1st and 2nd world wars. For a circumscribed period, the urge of a society to concentrate on the basic needs of daily life may partly protect from suicide.

Time trends appear not to be stable. For example, in many Western countries a reduction in youth suicide rates was observed in the last two decades. This decline may be explained by the more prevalent and effective treatment of psychiatric disorders (e.g. pharmacological treatment of depression). However, following a decade of steady decline, a relative increase in youth suicide was observed in the US in 2004 and 2005 (Bridge et al, 2008). Among the factors speculatively blamed for this increase were the influence of online social networks, increase in suicide among young US military, and higher rates of untreated depression following FDA warnings on suicidality associated with the use of antidepressants.

Recent US data on suicidal behavior among 9th to 12th grade students are available from the Youth Risk Behavior Survey (YRBS), Centers for Disease Control.

Suicidal thoughts and suicide-attempts

In 2009, 9th to 12th grade US students reported in the previous 12 months to have:

- Seriously considered attempting suicide (13.8%)
- Made a suicide plan (10.9%)
- Attempted suicide one or more times (6.3%,)
- Attempted suicide resulting in injury, poisoning, or an overdose that had to be treated by a doctor or nurse (1.9%).

Changes from 1991 to 2009 point to an overall decrease in suicidal thoughts and behavior in US youth. The Youth Risk Behavior Survey data illustrate that suicidal ideation is very common among adolescents and that a significant percentage is carrying out serious suicide attempts. Fortunately, rates for completed suicide are comparatively low (US data for 2006: 4.16 per 100.000 among 10-19 year olds; Cash & Bridge 2009). However, data indicate a progression in the development of acute suicidality from suicidal ideation, to planning and to a suicide attempt. Thus, suicidal thoughts always have to be considered a significant warning sign requiring professional advice. With respect to suicidal ideation and suicide attempts, there is a female preponderance in most countries (more than twice as common among females).

There are differences between countries and regions in rates of suicidal ideation and suicide attempts, similar to what happens with suicide. For example, in South-West Nigeria about 20% of youths aged 10-17 years reported suicidal thoughts and about 12% reported a suicide attempt – rather high (Omigbodun et al, 2008). However, risk factors for suicidality in that study were comparable to those reported in the international literature (e.g., disrupted family environment, financial disadvantage, experiencing abuse or violence, substance use) with the exception of a similar prevalence in males and females.

Means of suicide

In North America, firearms are the most frequent way for young people to commit suicide, followed by hanging, suffocation and self-poisoning (Branco et al, 2010). In Western Europe, by contrast, firearms play a minor role; jumping from high places or before a train is the main method. Poisoning by pesticides is prevalent in agricultural regions in low and middle-income countries such as China and India. In Turkey, in 2010 the five most common methods of suicide among 15-19 year olds were in decreasing frequency: hanging, firearms, chemicals, jumping

from a high place, and jumping into water (TurkStat; Suicide Statistics 2010, www.tuik.gov.tr, 2011). Carbon monoxide poisoning is becoming widespread in some Western Pacific countries (e.g., Taiwan). In Western Europe and North America, over-the-counter pharmaceuticals (mainly analgesics) and psychotropic drugs are common.

Risk factors

Major risk factors for suicide in adolescence are summarized in Table E.4.5. As stated, there is a lack of research on suicide in preadolescents. No specific pattern of risk factors for this age group has been found yet (Kloos et al. 2007). In preadolescents, family-related stressors may play a more significant role than in adolescents, while age-dependent psychopathology (e.g., alcohol use, bipolar disorder, psychosis) may have less influence.

The effects of age and gender have already been described. However, it should be kept in mind that statistical risk refers to averages in a community and has limited relevance for the assessment and treatment of individual patients. For example, a female adolescent is statistically at lower risk for completed suicide after a suicide attempt than a male counterpart. However, *assessment and treatment are not gender-specific!*

Prior suicide attempts

A prior suicide attempt is one of the most important predictors of further attempts and of completed suicide (Spirito & Esposito-Smythers, 2006):

- About 30% of completed suicides have a history of suicide attempts
- After a suicide attempt the risk of a further attempt is 20 times higher than in individuals without a history of attempted suicide
- The risk of a serious suicide attempt is strongly associated with the number of previous suicide attempts.

Table E.4.5 Major risk factors for suicide among adolescents*

- Previous suicide attempt
- Psychopathology
  - Especially major depressive disorder, bipolar disorder, conduct disorder, and substance use disorders
  - Psychiatric co-morbidity, especially the combination of mood, disruptive, and substance use disorders
  - Dysfunctional personality traits (especially antisocial, borderline, histrionic, and narcissistic traits)
  - Feelings of hopelessness and worthlessness
  - Impulsive aggression: the tendency to react to frustration or provocation with hostility or aggression
- Family factors
  - A family history of depression or suicide
  - Loss of a parent through death or divorce
  - Family discord
- Physical and sexual abuse
- Lack of a support network, poor relationships with peers and feelings of social isolation
- "Coming out" or dealing with homosexual feelings in an unsupportive family, community or school environment
- Availability of lethal means
- Having been exposed to suicide (e.g., suicide or suicide attempt in family members or friends; media reporting)

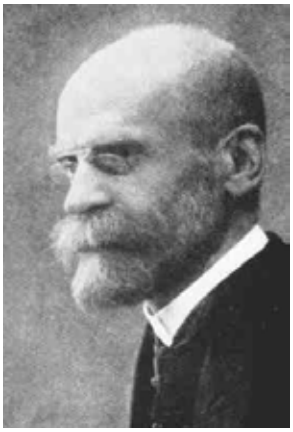
*Adapted from Cash and Bridge (2009).

Psychiatric disorder

Psychopathology is another major risk factor for suicide in children and adolescents. Psychiatric disorders are present in 80% to 90% of suicides. *Mood*, *anxiety*, *conduct* and *substance use disorders* are the most important conditions. Besides co-morbidity the *severity of impairment* caused by psychiatric symptoms as well as the *total symptom load* is of importance. The severity of symptom-related impairment explained most of the risk for suicidality associated with current psychiatric disorders in the Great Smoky Mountains Study (Foley et al, 2006). A single symptom, sleep problems has been associated with suicidality (Wong et al, 2011). Problems sleeping in early adolescence were associated with suicidality and self-harm in late adolescence, even when other risk factors – depression included – were statistically controlled for.

Apart from the presence of manifest psychiatric disorders, *health risk behaviors* (disruptive, sexual and substance use behaviors) are associated with higher suicidal risk in young adolescents (Afifi et al, 2008). Feelings of *hopelessness and worthlessness* as well as *impulsive aggression* are also linked with suicidality. Although these states often occur within the context of depression or conduct disorder, they may also be significant in individuals without a psychiatric disorder. This also refers to the disinhibiting effects of *acute intoxication* which may account for suicidal acts in individuals without manifest substance dependence.

Suicidal behavior can also occur in youngsters without current psychiatric disorder. In the Great Smoky Mountains Study, youth suicide in the absence of a psychiatric disorder was related to prior suicidal behavior, legal and disciplinary problems and psychiatric disorders in the family.



Émile Durkheim (1858-917), French sociologist, sought to explain suicide as a social phenomenon.

Family environment

Parental psychopathology and *suicidal behavior in the family* is associated with higher suicidal risk in the offspring. The liability to suicide in families may be independent of a family history of psychiatric illness. Children of parents with mood disorders show more suicide attempts when there is a history of parental suicidality as compared to the offspring of parents without suicide attempts. Family psychopathology – especially suicide attempts in mothers and substance misuse in both parents – and family discord predict higher suicidality in adolescence even when psychiatric morbidity is controlled for (Pfeffer et al, 1998).

Adversity

In the Great Smoky Mountains Study, poverty was associated with suicidal behavior irrespective of the psychiatric profile or the severity of psychopathology. Stability of the psychosocial network is also relevant. In a Danish study, frequent changes of residence were associated with an increased risk of attempted and completed suicide in children and adolescents (Qin et al, 2009). Greater childhood adversity – exemplified among others by physical or sexual abuse and witnessing domestic violence – was found to be associated with higher psychiatric morbidity, suicidal ideation and suicide attempts in adulthood (Afifi et al, 2008). The severity of sexual abuse correlated with the risk of suicide attempts in a Canadian sample (Brezo et al, 2008). This is observed even in preadolescents. In a study of maltreated 8-year-old children, 10% reported suicidal ideation (Thompson et al, 2005).

Modeling suicidal behavior – The "Werther effect"

There has been much discussion about the influence of media depictions of suicidal acts on the frequency of suicide. A classic example is what happened in Germany after the publication of Goethe's popular book "The Sorrows of Young Werther" in 1774. Publication was followed by a number of suicides of young people. This was attributed to the vivid description of the young protagonist romantically killing himself after being rejected by the woman he loved. The book was subsequently banned in most of Europe.

Suicide clustering following media reporting and fictional presentation of suicide on television does occur ("Werther-effect"). According to a German naturalistic study (Schmidtke & Hafner, 1988), broadcast of a soap opera showing the railway suicide of a 19 year-old male resulted in an increase (175%) in railway suicides among 15 to 19 year-old males. Factors associated with imitation are: time (suicides peak in the first few days after publication), amount and prominence of media coverage, similarity between victim and teenager, celebrity status of the victim, specific description of the suicide (method, time, place), romanticized and sensationalized reporting, suggestions that there is an epidemic, and simplifying the reasons for suicide (World Health Organization, 2008).

Suicide attempts and suicides among peers (Hazell & Lewin, 1993) also increase the risk. Different pathways can lead to a clustering of suicides. Apart from posttraumatic stress symptoms, bereavement and assortative friendships with vulnerable peers, mere imitation is a significant factor.

Stressors

Bullying is associated with suicidal attempts and self-harming behavior. In a Finnish study, frequent victimization among girls was associated with later suicide attempts and completed suicide even after controlling for psychopathology. Bullying and victimization was also associated with suicidality in boys, but not after controlling for depressive and disruptive symptoms (Klomek et al, 2009).

Other relevant stressors include *legal or disciplinary crisis*, *incarceration* and *school difficulties*. Highly competitive placement examinations for high schools may contribute to suicide. For example, in 2010 in Turkey, 13 young people aged up to 19 years committed suicide which was hypothesized to be associated with recent academic failure (TurkStat; Suicide Statistics, 2010, www.tuik.gov.tr, 2011).

Sexuality

There is good evidence that gay, lesbian, and bisexual young people are at increased risk of suicidal behavior (Fergusson et al, 1999; Russell & Joyner, 2001). This may be more so when "coming out" or when families are not supportive (Ryan et al, 2009).

Internet and social networks

A broad spectrum of suicide websites is available on the Internet. There are helpful "anti-suicide" websites mostly maintained by self-help groups, government or international organizations. On the other hand, there are sites clearly celebrating suicide, giving advice on lethal means, offering chat groups in which users can announce their intention to suicide or fix a date for a joint suicide. Some of these websites are linked to specific subcultures (e.g., Emo). In relation to German language sites, there are currently about 100 suicide forums, 40 of them with information judged to be harmful to minors.

SUICIDAL BEHAVIOUR

Clinical course

Stages of suicidal behavior

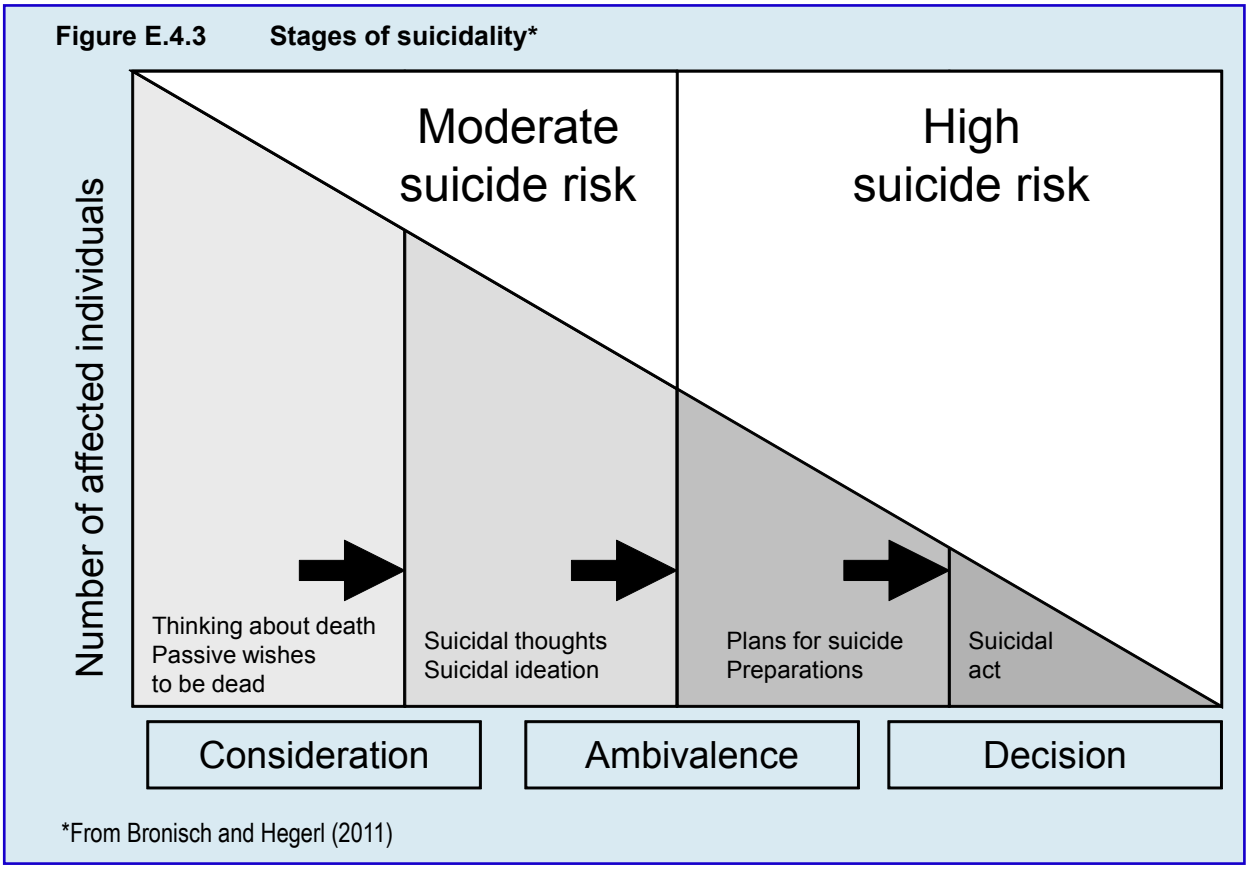
Suicidality can be conceptualized as a continuum with thoughts about death at the one end and serious suicidal acts at the other (Figure E.4.3; Bronisch & Hegerl, 2011). Acute suicidality often develops in a stepwise fashion with increasing and more specific ideation and planning overcoming ambivalence and the individual becoming more and more determined.

As suicidal ideation becomes more specific, a characteristic "pre-suicidal syndrome" (Ringel in 1959; Ringel, 1976) may develop. According to Warnke (2008) it is characterized by:

- Feelings of hopelessness, self-blame, of being alone and misunderstood
- Negative ruminations, self-pity
- Inactivity and social withdrawal
- Inhibited aggression turned toward the self (auto-aggression)
- Suicidal fantasies and planning
- Dysphoria
- Somatic symptoms, sleep problems, fatigue, and loss of appetite.

Once the decision to commit suicide is made, the suicidal person may be less agitated and appears more stable, leading clinicians to underestimate the suicide risk. Presence of the pre-suicidal syndrome should be a warning sign. However, this may be less so in children and adolescents in whom impulsive suicide is more

Figure E.4.3 Stages of suicidality*



*From Bronisch and Hegerl (2011)

common than in adults. Therefore, it has to be kept in mind that suicide attempts may occur during any of the stages depicted in Figure E.4.3.

Suicide usually occurs in a crisis and is rarely happens in the absence of other important factors. For this crisis to take place it usually requires a predisposition, a trigger, a facilitator and availability of a method to carry it through. Being aware of this allows possible interventions to decrease the risk at various stages of the crisis.

- *Predisposition.* As already discussed, youth who attempt suicide have a predisposition to do so, in many cases because of a mental health problem, often depression.
- *Trigger.* Most suicides or suicide attempts take place after something happened that made adolescents feel unhappy, afraid or angry. Conflicts with other people (parents, friends, school, police) are frequent triggers. Examples are disciplinary crises (when teenagers are found to have done something wrong such as stealing and are awaiting punishment), a public humiliation, the threat of separation from a girlfriend or boyfriend, and disclosure of sexual abuse. These are usually perceived as more catastrophic by the teenager than by other people.
- *Facilitator.* The strong emotions produced by crises are more likely to lead to suicide if the young person's judgment is impaired by alcohol or drugs. Other facilitators include identification with someone well known or admired who committed suicide, suicides among family members or friends, or if the teenager lacks firm religious beliefs that forbid suicide.
- *Opportunity.* Finally, adolescents need to have access to the means of committing suicide in an acceptable way for them. Although it may appear strange, people often have a clear idea about the way they would like to kill themselves.

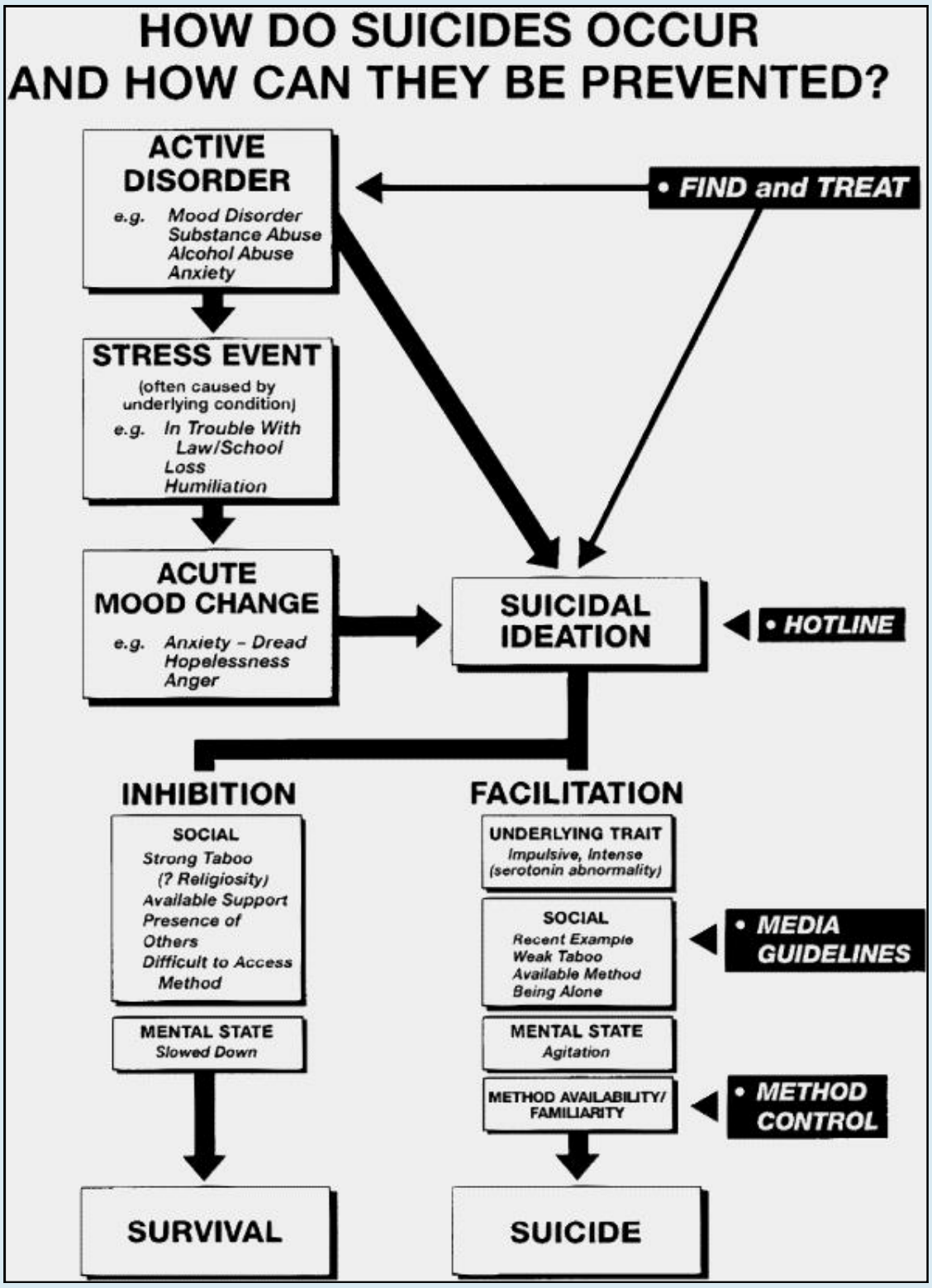
Click on the picture to hear a powerful anti-suicide message ("If you're contemplating suicide, this is for you...") by the gifted rapper Angel Haze. Warning: coarse language. (04:12)

As an example, features of the development of suicidality which are relevant for suicide prevention are shown in figure E.4.4 (American Academy of Child and Adolescent Psychiatry, AACAP, 2001).

Course

In most studies on the natural history of self-harming behavior no distinction is made between non-suicidal self-injury and suicide attempts. This is partly due to research relying on data gathered in non-psychiatric routine clinical care (without thorough examination with respect to suicidal intent). Moreover, in a significant proportion of patients non-suicidal and suicidal self-harm co-occur. As stated above, the risk for completed suicide is considerably increased in individuals with a previous suicide attempt: 0.5% to 2% at one year, above 5% at nine years (Owens, 2002). Repetition rates are high (e.g., 16% at 1 year, 21% at 1 to 4 years and 23% at over 4 years; Owens, 2002). In a large British sample of children and adolescents aged less than 15 years who presented to general hospitals because of deliberate self-harm, long-term follow-up (11 years) pointed to death by suicide in 1% of the patients (Hawton & Harris, 2008). This reflects a relatively low individual risk of completed suicide in self-harming patients even in the long term. On the other hand, the data suggest that people who self-harm have suicide risk 100 times higher than in the general population.

Figure E.4.4 Model of the development of suicidality with types of targeted preventive interventions



Reproduced with permission from Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. Journal of the American Academy of Child & Adolescent Psychiatry. 40 (sup):24S-51S. ©2001 American Academy of Child and Adolescent Psychiatry.

ASSESSMENT

There are questionnaires available to screen for suicide risk in children and adolescents but they will not be discussed here in detail because most are only available in English and data on their psychometric properties and specific translations may not be available (the interested reader may refer to AACAP, 2001).

Because of its large distribution, owing to its translation into more than 100 languages, the Columbia–Suicide Severity Rating Scale (C-SSRS; Posner et al, 2011) is described. The C-SSRS was designed to distinguish between suicidal ideation and suicidal behavior measuring four constructs:

1) Severity of ideation (wish to be dead, nonspecific active suicidal thoughts, suicidal thoughts including methods, suicidal intent, and suicidal intent with a plan)
2) Intensity of ideation (frequency, duration, controllability, deterrents, and reason for ideation)
3) Behavior (actual, aborted and interrupted attempts; preparatory behavior; and non-suicidal self-injurious behavior)
4) Lethality.

Click on the picture to access the Columbia-Suicide Severity Rating Scale (C-SSRS) training program.

Different forms of this scale have been developed, including versions for children. Forms are available on the C-SSRS website. Psychometric properties appear to be good (Posner et al, 2011), and administration time is only a few minutes. A training program is available on the website, which is required for clinical trials and strongly recommended for clinical practice before administering the C-SSRS.

Rating scales can be helpful for screening purposes – e.g., in prevention projects to detect individuals at risk. However, a clinical assessment by a trained professional is required to assess suicide risk. This assessment should comprise a physical and psychiatric examination including a comprehensive history (with information from patient, parents and significant others) to obtain information about acute psychosocial stressors, psychiatric diagnoses, current mental status and circumstances of prior suicide attempts.

Suicidality should be addressed directly and openly in a supportive atmosphere. There is no risk to cause suicidality by talking about it; there is a risk of ignoring suicidality if the topic is avoided. Assessment should be stepwise, from general to specific questions. Examples of questions to be asked when screening for suicidality are given in table E.4.6. Further assessment may be skipped if acute suicide risk can be ruled out. On the other hand, exploration will be more detailed if risk factors for suicide become apparent.

A sophisticated exploration will comprehensively cover all known suicide risk factors; these are summarized in tables E.4.7 to E.4.9 (Warnke, 2008), comprising:

- Current individual factors (mental state examination)
- Individual factors in the past (patient's history) and in the family (family history)
- Specific characteristics of prior suicide attempts.

Table E.4.6 Examples of questions to screen for suicide risk (DGPPN, 2009)

- "Have you been thinking that you don't want to live anymore or that life is not worth living?"
- "Does this happen often?"
- "Do you think about it unintentionally? That is: Have you been bothered by unwanted suicidal thoughts?"
- "Have you been able to push these thoughts aside?"
- "Do you have specific ideas about how you would do it?"
- "Did you make any plans or preparations?"
- "Is there anything that prevents you from doing it?"
- "Did you talk to anyone about your suicidal ideas?"
- "Did you ever try to kill yourself?"
- "Has anyone in your family or among your friends or acquaintances committed suicide?"

Table E.4.7 Indicators of acute suicide risk - current individual factors (mental state examination)

Suicidal ideation:

- No disassociation from suicidality even after a long conversation
- Pressing suicidal thoughts, emerging spontaneously
- Precise suicide plan (method, place, time, or other specifications)
- Preparation for suicide, especially in the case of a violent method; preparations to say goodbye
- Altruistic (pseudo-altruistic) ideas of suicide; ideas of self-sacrifice

Symptoms and co-morbidities:

- Marked hopelessness (missing perspectives for the future; low academic achievement; failing on the job; the conflict leading to suicidal ideation remains unsolved)
- Recent social withdrawal
- High agitation, irritability, aggression, emotional instability or panic
- Intoxication (alcohol, drugs)
- Symptoms of acute psychosis
- Impaired impulse control and disinhibition (e.g., in the case of alcohol intoxication, acute delirium or mania)
- Symptoms of severe depression
- Prominent symptoms of personality disorder or conduct disorder, most notably in combination with alcohol abuse

Other important factors:

- A stable rapport cannot be established
- Patient making the effort to be admitted to inpatient-treatment
- Time of examination within a one-year period after the last suicide attempt

The co-occurence of various risk factors should be taken into account. This is exemplified in the following case vignettes:

- A 14 year-old girl was unsure about her sexual orientation; she had romantic feelings towards a female classmate who had harshly rejected her recently. The girl performed poorly academically and had become increasingly depressed three months prior to examination. Psychiatric assessment was prompted by her posting a suicide note in a chat room. Her parents reported that her uncle had died by suicide two years earlier.
- A 16 year-old was referred for psychiatric assessment by the emergency unit where self-inflicted skin cuts on his wrists had been treated; he was also inebriated. The young man had been stigmatized by a congenital haemangioma on his left cheek. He had been brought up by his single mother on her own, she had become pregnant with him at the age of 17; she had not had a stable relationship. The boy had talked about recent suicide attempts with his classmates.

Table E.4.8 Indicators of acute suicide risk - individual factors in the past (patient history) and in the family (family history)

Patient history

- Previous suicide attempts
- Suicides in the surroundings

Social stresses

- Loss of a loved one - most notably a parent - by suicide, natural or accidental death, separation, divorce or long-standing absence
- End of a close relationship (romantic or friendship)
- Missing social contacts and poor integration in the peer group leading to feelings of being lonely and rejected, most notably in the case of migration or relocation

Symptoms and co-morbidities

- Aggressive behaviour and delinquency
- Psychiatric disorders, most notably depression and substance misuse/dependency
- Children: poor discipline, school absenteeism

Other important factors

- No religious or similar attachments
- Seemingly unsolvable conflicts due to unwanted pregnancy
- Conflicts due to homosexuality

Family history

- Suicides and suicide attempts in family members
- Paternal psychopathology
- A family history of violence, misuse and substance abuse
- Unstable family relations and unresolved conflicts in the family, missing social support by family members

Access to lethal means increases suicide risk.

Table E.4.9 Indicators of acute suicide risk - characteristics of prior suicide attempt

- Suicide attempts or suicidal thoughts referring to a "hard method" (e.g., hanging, shooting, jumping from a high place, jumping or lying before moving vehicle)
- The suicide attempt is well-thought-out with a clear planning
- Low chance of help and intervention (specific arrangements were made to prevent being found, e.g., suicide attempt in isolation, far from others, time of suicide chosen to prevent being found, not alerting others after the suicidal act)
- Others have been informed of the suicide intention, a suicide note was written
- A clear wish to die is expressed without relief about being still alive

Table E.4.10 Specific issues in the assessment of pre-pubertal children – example of questions*

Interviewing children whose grasp of the concepts of time, causality and death may be limited:

- "Do you think about killing yourself more than once or twice a day?"
- "Have you tried to kill yourself since last summer/since school began?"
- "What do you think would happen when you tried to jump out of the window?"
- "What would happen if you died; what would that be like?"

Interviewing parents about suicidal ideation and behavior in their children

- "What exactly happened (step by step) on the day your child spoke of wanting or tried to hurt himself?"
- "How did you find out that your child was thinking about or trying to hurt himself?"
- "What were you doing when your child was thinking about or trying to hurt himself?"
- "What happened after your child thought about or tried to hurt himself?"

*Jacobsen et al (1994)

Click on the picture to view the NICE guideline "Self-harm: The Short-Term Physical and Psychological Management and Secondary Prevention of Self-Harm in Primary and Secondary Care"

Table E.4.10 gives examples of the kind of issues that need to be explored when evaluating suicide risk in prepubertal children. Apart from the topics already mentioned, specific aspects refer to the difficulties interviewing children whose comprehension of time, causality and death may be inadequate.

RISK ASSESSMENT

Click here to access the NICE guideline "Self-harm: Longer-Term Management"

Acute suicide risk is low if:

- There is no major psychiatric disorder present requiring treatment
- The patient is able to form an adequate therapeutic alliance with the clinician
- The suicide attempter did not intend to die
- The patient clearly and believably states that a re-attempt will not take place
- The patient is hopeful about the future and has concrete goals with respect to his engagement in everyday activities
- Stable social and family support is available
- No significant life stressors are present.

Table E.4.11 Suicide risk assessment*

	High risk	Medium risk	Low risk
'At risk' mental state • Depressed • Psychotic • Hopelessness, despair • Guilt, shame, anger, agitation • Impulsivity	Examples: • Severe depression • Command hallucinations or delusions about dying • Preoccupied with hopelessness, despair, feelings of worthlessness • Severe anger, hostility.	Examples: • Moderate depression • Some sadness • Some symptoms of psychosis • Some feelings of hopelessness • Moderate anger, hostility.	Examples: • Nil or mild depression, • sadness • No psychotic symptoms • Feels hopeful about the future • None/mild anger, hostility.
Suicide attempt or suicidal thoughts • Intentionality • Lethality • Access to means • Previous suicide attempts	Examples: • Continual/specific thoughts • Evidence of clear intention • An attempt with high lethality (ever).	Examples: • Frequent thoughts • Multiple attempts of low lethality • Repeated threats.	Examples: • Nil or vague thoughts • No recent attempt or one recent attempt of low lethality and low intentionality.
Substance disorder (current misuse of alcohol and other drugs)	• Current substance intoxication, abuse or dependence.	• Risk of substance intoxication, abuse or dependence.	• Nil or infrequent use of substances.
Corroborative history • Family, carers • Medical records • Other service providers and sources	• Unable to access information, unable to verify information, or there is a conflicting account of events to that of those of the person at risk.	• Access to some information • Doubts about plausibility of person's account of events.	• Able to access or verify information and account of events of person at risk (logic, plausibility).
Strengths and supports (coping & connectedness) • Expressed communication • Availability of supports • Willingness and capacity of support persons	Examples: • Patient is refusing help • Lack of supportive relationships or hostile relationships • Relatives or friends not available, unwilling or unable to help • Parental mental illness • Violence or substance misuse in the family.	Examples: • Patient is ambivalent • Moderate connectedness • Few relationships, may be available but unwilling or unable to help consistently • Moderate mental symptoms in family members • Some instability or dysfunctional parenting.	Examples: • Patient is accepting help • Therapeutic alliance forming • Highly connected, good relationships and supports • Relationships willing and able to help consistently • Supporting family environment.
Reflective practice • Level & quality of engagement • Changeability of risk level • Assessment confidence in risk level	• Low assessment confidence or high changeability or no rapport • Poor engagement		• High assessment confidence and low changeability • Good rapport, engagement.

No (foreseeable) risk: Following comprehensive suicide risk assessment, there is no evidence of current risk to the person. No thoughts of suicide or history of attempts, has a good social support network.

*Modified from NSW Department of Health (2004, p20)

Table E.4.12 Acute management of suicidal behaviour*

High risk or high changeability or low assessment confidence: Re-assess within 24 hours
• Ensure the patient is in an appropriately safe and secure environment • Organise re-assessment within 24 hours • Organise ongoing management and close monitoring • Make contingency plans for rapid re-assessment if distress or symptoms escalate.
Medium risk (significant but moderate risk): Re-assess within one week
• Organise re-assessment within one week • Make contingency plans for rapid re-assessment if distress or symptoms escalate
Low risk (definite but low suicide risk): Re-assess within one month
• Organise re-assessment within one month (timeframe for review should be determined based on clinical judgment) • Reassess within one week after discharge from an in-patient unit • Provide written information on 24-hour access to suitable clinical care

*NSW Department of Health (2004a, p21).

Often suicide risk cannot be excluded definitively and an estimation of the level of risk is needed. Table E.4.11 presents a summary of factors that need to be considered for categorizing patients as being at high, medium, low or no foreseeable risk of suicide (NSW Department of Health, 2004a).

Special attention has to be paid to the *changeability of risk* (e.g., suicide risk is not static, it varies due to changes in mental state, relationships or stressors) and to the *confidence* on the assessment. Low assessment confidence can be attributed to (1) factors within the person (e.g., mental illness, the patient is intoxicated); (2) factors within the social environment (e.g., a divorce with a custody battle causing one parent to remain silent about problems), or (3) factors within the assessment procedure (e.g., incomplete assessment, the patient refuses to give information) (NSW Department of Health, 2004a).

MANAGEMENT OF SUICIDAL BEHAVIOR

Optimal treatment of children and adolescents with suicidal behavior requires a continuum of services including emergency intervention, outpatient, home-based, day and inpatient treatment (Steele & Doey, 2007). In practice, however, this is often not possible due to lack of resources.

The first step in managing suicidality is to make sure that the child or adolescent at risk is safe and receives support. The management strategy depends on the level and changeability of risk and assessment confidence (see Table E.4.12).

At the emergency department, young persons who have made a suicide attempt should be assessed by an experienced mental health professional, including interview with parents or relatives and a thorough risk assessment. Staff should be trained to provide care for suicidal youths, who are often disliked by emergency room staff. Suicidal youth need to be treated with the same attention and respect as any other patient, avoiding either blaming them for endangering their life or making well-meant attempts to cheer them up while dismissing the severity of their predicament. Before discharge, it is essential to have prepared a plan to deal

with the crisis, making sure that supporting contact (e.g., telephone) is available 24 hours a day. "To-do-steps" of the contingency plan will depend on the intensity of the emotional crisis and should be worked out in cooperation with the patient and caregivers (NSW Department of Health 2004a). Before discharging a suicidal patient from an emergency unit or crisis centre it is always necessary to (AACAP, 2001):

- Counsel patient and family about the disinhibiting effects of drugs or alcohol
- Check that firearms and lethal medications and substances can be effectively secured or removed
- Check that there is a supportive person at home
- Check that a follow-up appointment has been scheduled (see Table E.4.12).

A 14 year old boy (Michael) was meandering on the railway tracks when he was removed by railway workers. The police were called and initiated a referral to child psychiatry service. During assessment Michael admitted that he had repeatedly falsified school report cards to hide his poor grades. A meeting between his parents and his teacher was to take place soon and the truth would inevitably be unearthed. Michael was afraid of his parents' reaction and had no idea about how to deal with this situation. He thought that getting injured or killed on the tracks was the only way to avoid the confrontation with his parents. Besides his poor achievement at school no other major risk factors for suicide could be determined. He was able to discuss his wrongdoings with his parents who accepted his apologies. Since there were no symptoms of other mental disorders and he did not intend harming himself any longer, he was discharged from the child psychiatric unit one day after admission. An appointment with the child psychiatrist had been scheduled for three days after discharge. Michael and his parents agreed that involving the school should also be part of the management plan. Poor grades and the impending meeting with the schoolmaster were still a significant worry for him.

The contingency plan worked out with Michael and his parents was as follows:

1. ***For Michael***: *If I'm feeling desperate and have a strong urge to harm myself, I will openly talk to my parents. We will contact <name of the mental health professional>. <name of the mental health professional> will offer an appointment on the same or the following day.*

2. ***For Michael***: *If my parents are not present at that time, I will address a person I trust <names of persons>. If no such person is available, I will contact <name of the mental health professional> myself.*

3. ***For Michael and his parents***: *If <name of the mental health professional> cannot be contacted, we will phone <emergency number of the child psychiatric unit> and request an immediate appointment. The <child psychiatric unit> will offer this appointment within a few hours.*

4. ***For Michael's parents***: *If Michael feels as described above, one of us will stay with him until the appointment takes place. If this cannot be ensured, we will call for an immediate emergency appointment as specified above.*

5. *If, for some reason, <name of the mental health professional> cannot offer an appointment, an appointment will be organised with a colleague instead.*

Contingency planning (NSW Department of Health, 2004a, p23).

Contingency planning requires the clinician and the person at risk and their family to anticipate likely escalations of risk such as:

- Deterioration of family relationships
- Increase in symptoms (depression, insomnia, hallucinations, suicidal feelings)
- Temporary unavailability of the clinician or acute care team.

Contingency planning may be framed, communicated and documented in the following manner:

- If the patient <e.g., has a worsening of suicidal thoughts>, then the patient will <actions to be performed, e.g., phone doctor NN, speak with parents about it>
- The family will <actions to be performed by the family, e.g., ensure the patient is not left alone, phone doctor NN, give prescribed medication>
- The service will <actions to be performed by the service, e.g., organise an urgent review, do a home visit>

In addition, a no-suicide contract may be helpful (formulated as a commitment by the patient and not as an insurance for the mental health professional since there is no empirical evidence that no-suicide contracts are actually effective). A no-suicide contract usually includes (1) confirmation that the patient is not to endanger his life during a defined short period (e.g., the next day, until the next session with the therapist); (2) a commitment by the patient to adhere to the therapy; (3) a commitment by the patient to comply with the contingency plan.

The management of suicidality in youth requires clear communication with the young person and family. This also holds for contact with the school, which should always be attempted after obtaining permission from the young person and family.

Important messages to the suicidal youth, his parents and teachers

It is essential that clinicians inspire confidence and give the impression that they are familiar with this type of problem and in control, avoiding fuelling unnecessary drama but calming, reassuring and soothing everyone involved. However, one needs to be careful about not deceiving patients or promising things that one cannot deliver.

Messages to the suicidal youth:

- My main concern is your safety and I will try to ensure that the best way I can
- Your treatment will be kept confidential unless you give permission to discuss it with other professionals or unless there is immediate risk to your or other people's life
- Many young people think about death or suicide and some try to kill themselves at one time or another
- Almost every decision you make can be changed. However, death is final and irrevocable. It's worth taking enough time to balance the pros and cons
- We would like to know more about you. Together we may get to understand the circumstances that placed you in this crisis
- Every suicidal youth I have met had reasons for their self-destructive ideas but in most cases reasons changed over time
- I am sure that together we can find a way out of your predicament – even if this seems out of reach for you right now
- As a first step we will try to formulate a contingency plan with you and your parents.

Messages to parents and caregivers:

- Suicidal thoughts and attempts are not uncommon in young people. In most of cases, this is an acute crisis that is overcome within a short period of time. We are familiar with managing suicidal crises and will frankly discuss every step with you
- Like with every medical treatment we are bound by confidentiality. In the course of treatment it may be useful to establish contact with other professionals (e.g., teachers, psychologists). However, contact will only be established with your child's consent or if there is immediate risk to your child's life

- The first priority is to ensure your child's safety. Close supervision is needed until we can estimate the suicide risk. Depending on the estimated risk, we will decide after consultation with you and your child on further treatment options
- As a first step we will formulate a contingency plan for you, your child and us
- Dealing with suicidal behavior is only effective if there is a close cooperation between you, your child and treatment team.

Parents should receive specific information on the setting and therapeutic options for the treatment of their child. They should have the opportunity to express their opinions and feelings. Unscheduled contact (by phone or face to face) should be offered to deal with suicidal behaviour, or if they have worrying questions or complaints about the management.

Messages to teachers and school staff:

- When the suicidal youth return to school, a thorough risk estimation will have been made which will have concluded they are stable enough to engage in daily school activities
- A contingency plan to deal with potential issues will have been worked out. This includes specific advice about what school staff can do and who to contact in case of concern about the student
- Because school is an important part of a young person's life, teachers and other school staff can be of assistance in helping students settle after a suicidal crisis. Specific strategies will be discussed with school staff, the family and health professionals
- Teachers should regularly talk to the student and parents to keep track of his progress
- Suicidality is a dynamic rather than a static phenomenon. Hence, students may experience a crisis again. Teachers should feel free to talk openly to the young persons if they have concerns that they may be deteriorating. Avoid arguing or giving hasty advice but speak with the treating clinician instead
- General strategies in case of a suicidal crisis may include:
  - Do not leave the suicidal student alone, even for a short time; escort the student away from other students to a safe place
  - Ask whether they are in possession of potentially dangerous objects or medications. If students have dangerous items, try to persuade them to give them to you but do not engage in a physical struggle
  - If a student keeps dangerous items, clearly makes suicidal statements or is agitated, call an ambulance, the police and the student's parents
  - If students are cooperative, contact the parents and ask them to pick up their child
  - Tell students and their parents that you would like to contact the patient's treating mental health service to inform them of the situation
- School staff should document all actions taken.

Click on the picture to view eighth grader Jonah Mowry share his story of years of bullying and self-injury, and fears for the future (04:36)

Hospital admission or not

Not all persons at risk of suicide can or should be admitted to hospital. Hospitalization may have little benefit and even increase risk for some people.

Many issues are involved in the decision to hospitalize – availability of resources, hospital beds, informal support networks and cultural traditions may all play a role – and there are no hard and fast rules but such a decision should be made on clinical grounds and involving the patient and family. If in doubt, one should consult with a colleague. In general, hospitalization may be needed if:

- Suicide risk is high, particularly if no alternative ways of ensuring the patient's safety are available
- There has been a recent suicide attempt requiring intensive medical care
- It is not possible to reliably estimate suicide risk.

If hospitalization is required, treatment should ideally take place in a secure child psychiatry ward. If this is not possible – e.g., surgical or medical care is needed – close supervision of the patient has to be assured. When acute suicidality occurs together with high agitation, short-term medication may be considered (e.g., benzodiazepines, neuroleptics). Inpatient treatment can be life-saving, provides relief from acute stressors and overwhelming demands and may enable patients to gradually regain control of their lives as well as to start treatment of concurrent psychiatric illnesses.

Inpatient units treating suicidal patients should establish protocols to maximize safety. This includes routine search on admission and further searches when there are grounds for suspicion. Special attention has to be paid to the physical surroundings (e.g., hanging points, blind spots, exits, design of windows, storage of poisonous substances). An "Access to Means of Suicide and Deliberate Self-harm Facility Checklist" can be found in NSW Mental Health Service (2004b).

General principles for the management of suicidality

Management should be individually tailored to target the risks factors for a specific patient. Interventions should not be restricted to specific psychopharmacological or psychotherapeutic interventions but involve a comprehensive treatment plan including other strategies to achieve relief from acute stressors. This will largely depend on the services available. In low income countries this comprehensive management may be unrealistic. However, in most places, informal supports can be marshaled to ensure patients safety by enlisting the support of the extended family, community elders and religious figures. These principles may include:

- Strategies to improve adherence to treatment (e.g., offering short interventions that are acceptable to the youth; sometimes focusing on support is more effective than insight-oriented psychotherapy)
- Active involvement of the patient and parents in the planning and implementation of interventions
- Protecting the patient if major adversities threatening the patient's mental and physical health are present
- Offering support to the family (e.g., in case of marital conflict, problems arising from divorce, parental mental illness, poor parenting practices, parental substance misuse)
- Enlisting support from child welfare agencies if indicated
- Organizing for relief from excessive demands (e.g., school demands exceeding patients' current capacity)
- Treating underlying psychiatric disorders

- Regular monitoring for recurrence of suicidal behavior
- An emergency plan for acute suicidal crises
- Offering flexible treatment sessions, time and frequency adapted to the patient's needs
- Establishing an effective communication between all the professionals involved (social worker, psychotherapist, child psychiatrist, pediatrician).

Psychosocial interventions

These have been reviewed by Daniel and Goldston (2009) and comprise:

- *Interventions to foster help-seeking behavior and to improve follow-up*, are important because of the low treatment compliance that has repeatedly been described for youths who attempted suicide: motivating youths and parents by providing psychoeducation during the attendance to the emergency department. Moreover, compliance is fostered by actively contacting the families immediately after discharge from the emergency department. The effectiveness of SMS messaging and other approaches using new media are also being examined
- *Organizing support for the suicidal youth*, e.g., by social workers assisting the youth's aftercare. Other approaches involve identifying and coaching support persons in the patient's environment (parents, extended family members, individuals at school or the religious community).
- *Strategies to improve parent-child relationships*. These include improving problem solving within the family, parenting and communication skills.
- *Cognitive behavior therapy (CBT)*
- *Multisystemic therapy (MST)*
- *Dialectic behavioral therapy (DBT)* (see Chapter H.4). Originally developed for the treatment of borderline personality disorder, DBT involves training in mindfulness, interpersonal skills, emotion regulation and stress tolerance and it has been adapted for adolescents with suicidal behavior.

Empirical data on the effectiveness of interventions are sparse and, currently, no intervention can be recommended over another (Daniel & Goldston, 2009; Robinson et al, 2011). In respect to engagement in therapy, specific psychological treatments seem not to be superior to treatment as usual (Ougrin & Latif, 2011). A review by Crawford et al (2007) on the efficacy of psychosocial interventions following self-harm (mainly in adults) concluded that there is no evidence they reduce the likelihood of subsequent suicide.

Psychopharmacological treatment

There are no specific medications for suicidality. However, medication may be needed to treat underlying psychiatric disorders. Risk of suicidality with SSRI use has been extensively discussed (see Chapters A.8 and E.1). The implication is that depressed adolescents treated with medication, and their families, need to know about this risk, and what to do if suicidal behavior emerges. They require careful follow up.

Problems and risks in treatment

Pitfalls and lapses in the management of suicidal youth may occur if:

- There is not enough cooperation or communication between the agencies and people involved
- Collateral information is not obtained
- Comorbid conditions are not treated
- Demands and stressors are overlooked
- Suicidal behavior is labeled as manipulative or not serious
- Minimization ("flight to health") by the patient is uncritically accepted (e.g., "I am OK", "There is nothing wrong with me")
- There is too much focus on therapy, overburdening the patient
- Confrontation strategies are too hard
- There is not enough validation of the patient's predicament
- There is too much use of clichés
- Termination of treatment or non-adherence is accepted without scrutiny
- Signs of suicide risk are overlooked
- Suicidality is not monitored during the course of treatment
- Dependence on the therapist is overlooked at the end of treatment
- Therapists neglect their own supervision.

PREVENTION

The World Health Organization suicide prevention (SUPRE) program emphasizes reducing mortality, morbidity and other consequences of suicidal behaviors by:

- Minimizing access to means of suicide (e.g., toxic substances, firearms)
- Early detection and treatment of mental disorders, and
- Responsible media reporting of suicide.

Risk factors are universal but their nature and relative importance differ from region to region. The WHO is running suicide prevention programs taking culture-specific issues into account (http://www.who.int/mental_health/prevention/suicide). For example, enhancing early recognition and treatment of mental disorders may be more important in low- than high-income countries; controlling access to firearms is more important in North America than in Western Europe where building physical barriers (e.g., in bridges, railways) to make jumping difficult is more relevant. Restricting access to pesticides and education about their effects are especially important in the countryside in low- and middle-income countries. Reducing harmful alcohol consumption is a major concern in Western and Eastern Europe but of minor importance in the Middle East. Programs addressing the disadvantage of minority indigenous peoples are also necessary (e.g., Aborigines in Australia, Maori in New Zealand, Indians in the US, and Inuit in Canada and Greenland).

Recommendations for schools and media professionals are summarized in Tables E.4.13 and E.4.14. For an overview of preventive strategies please see figure E.4.4.

The World Health Organization has useful guides for suicide prevention targeting:

- Physicians
- Teachers and school staff
- Media professionals

Empirical evidence for the effectiveness of suicide-preventive interventions in reducing suicidal behavior is poor (Wasserman et al, 2010). According to AACAP (2001) the following strategies have been investigated in interventional studies:

- Direct case-finding among students or among the patients of primary practitioners by screening for conditions that place teenagers at risk for suicide (effective and recommended)
- Media counseling to minimize imitative suicide (inconsistent data on effectiveness but recommended)
- Training professionals to improve recognition and treatment of mood disorders (possibly effective, recommended)
- Crisis hotlines (inconsistent data on effectiveness but recommended)
- Control of method of suicide, e.g., firearms (effective and recommended – however, a long-lasting general effect is doubtful)
- Indirect case-finding by educating the public, e.g., teachers, parents, peers, to identify warning signs (not effective – it may increase suicides – not recommended).

Table E.4.13 Preventing suicide: recommendations for teachers and school staff (WHO, 2000; p16)

Suicide is not an incomprehensible bolt from the blue: suicidal students give people around them enough warnings and scope to intervene. In suicide prevention work, teachers and other school staff face a challenge of great strategic importance, in which it is fundamental to:

- Identify students with personality disturbances and offer them psychological support
- Forge closer bonds with young people by talking to them and trying to understand and help
- Alleviate mental distress
- Be observant of and trained in the early recognition of suicidal communication whether through verbal statements and/or behavioral changes
- Help less skillful students with their school work, to be observant of truancy
- De-stigmatize mental illness and help to eliminate misuse of alcohol and drugs, to refer students for treatment of psychiatric disorders and alcohol and drug abuse
- Restrict students' access to means of suicide - toxic and lethal drugs, pesticides, firearms and other weapons, etc.
- Give teachers and other school personnel on-the-spot access to means of alleviating their stress at work.

Table E.4.14 Preventing suicide: recommendations for media professionals (WHO, 2008; p3)

- Take the opportunity to educate the public about suicide
- Avoid language which sensationalizes or normalizes suicide, or presents it as a solution to problems
- Avoid prominent placement and undue repetition of stories about suicide
- Avoid explicit description of the method used in a completed or attempted suicide
- Avoid providing detailed information about the site of a completed or attempted suicide
- Word headlines carefully
- Exercise caution in using photographs or video footage
- Take particular care in reporting celebrity suicides
- Recognize that media professionals themselves may be affected by stories about suicide
- Show due consideration for people bereaved by suicide
- Provide information about where to seek help

In Europe a large multinational randomized controlled trial (the SEYLE project; "Saving and Empowering Young Lives in Europe") is currently underway (Wasserman et al, 2010; http://www.seyle.eu/). SEYLE will investigate three preventive programs: (1) empowering students by increasing their self-efficacy, (2) empowering mental health professional in identifying subjects at risk, and (3) empowering teachers and parents in at-risk case finding and referring to mental health facilities.

NON-SUICIDAL SELF-INJURY

This section deals with non-suicidal self-injury (NSSI) in emotionally unstable patients acting out their inner distress. However, self-harming behavior may also occur in other psychiatric conditions such as in psychosis, mental retardation, pervasive development disorders, and severe deprivation. For management of self-harm in these disorders please refer to the respective chapter in this textbook.

Non-suicidal self-injury mainly involve skin lesions (e.g., cutting or carving the skin; picking at a wound; scraping, erasing or picking the skin until it bleeds; self-biting; inserting objects under the skin; self-tattooing; burning or freezing the skin; pulling hair out; self-hitting). Swallowing sharp or non-edible objects and non-suicidal self-poisoning also occur. Refusal to take prescribed medication in the case of severe illness or risky behaviors as a symptom of a specific psychiatric disorder are usually not subsumed under the concept of NSSI (e.g., refusing to eat in the case of anorexia nervosa, self-mutilation in the context of psychosis, auto-aggressive behavior in mental retardation). The relationship between culturally sanctioned self-mutilation (e.g., in the Goth scene in some Western societies, initiation rituals) and NSSI is not well understood.

Epidemiology

Non-suicidal deliberate self-injury is very frequent in high income countries. Rates of 26% to 37% have been reported for US community-based samples of middle to upper class youths (9th to 12th graders) (Yates et al, 2008). However, prevalence varies between samples and regions. In a community-based Canadian sample, 17% of youths reported that they had harmed themselves at least once (Nixon et al, 2008). Rates between 6% and 10% have been described for Irish, Australian and Japanese samples (Greydanus & Shek, 2009). A review of community-based studies described prevalences ranging between 13% and 23% (Jacobson & Gould, 2007). Prevalence is higher in late adolescence than early adolescence or childhood. The peak age of onset is early adolescence, between 12 and 14 years of age.

Risk factors

NSSI in adolescents is associated with high psychiatric morbidity, especially mood disorders, substance use disorders, and externalizing disorders (Nitkowski & Petermann, 2011). However, data on psychiatric morbidity in self-injuring individuals are limited because they mainly refer to clinical samples. In a community-based study, only suicidal ideation, major depression and undesirable life events predicted non-suicidal self-injury (Garrison et al, 1993).

Besides psychopathology, other risk factors associated with NSSI are a history of sexual or physical abuse, negative life events, and symptoms often linked with psychiatric morbidity (depression, dissociation, anxiety, alexithymia, hostility,

poor self-esteem, antisocial behavior, smoking, emotional reactivity, deficits in emotion regulation) (Jacobson & Gould, 2007). Stressful life events often involve interpersonal conflict, losses, family discord, difficulties with friends, problems in romantic relationships and school problems (de Kloet et al, 2011).

Jacobson et al (2008) in a chart review compared four groups of adolescent outpatients: (1) no NSSI, (2) NSSI alone, (3) suicide attempt, and (4) suicide attempt plus NSSI. They found that NSSI patients had similar rates of suicidal ideation as those without deliberate self-harm, supporting the validity of the distinction between suicide attempts and NSSI. Other results point to the following additional conclusions (Jacobson & Gould, 2007):

- Depression seems not to be a specific risk factor for NSSI (as compared to suicide attempt)
- The co-occurrence of NSSI and suicide attempts points to a more severe psychopathology
- All risk factors empirically found for NSSI are not specific and are also risk factors for suicidal behavior
- Suicidal behavior and NSSI are related: engaging in one behavior increases the likelihood of engaging in the other (Lofthouse & Yager-Schweller, 2009).

Table E.4.15 summarizes the different psychological functions that may be fulfilled by NSSI. According to a review by Klonsky (2007) all these models are at least moderately supported by empirical evidence. A framework to analyze NSSI behavior is provided by operant learning theory and summarized in Table E.4.16 (Nock & Prinstein, 2004). Self-injuring behavior has positive and negative reinforcement aspects and meets both intrapersonal and interpersonal (social) functions.

Clinical course

Most NSSI in adolescents resolves spontaneously by the time they become young adults. A series of surveys that followed 1800 adolescents over from the age of 14-15 years found that about one in ten had self-harmed (Moran et al, 2011). Self-harm was more frequent in girls and the most common method was cutting or burning. However, self-harm declined significantly by the age of 17, with nine

Table E.4.15 Hypothesized functions of non-suicidal self-injury and support by empirical evidence.*

Function	Description	Evidence
Affect-regulation	To diminish acute negative affect or aversive affective arousal	Strong
Anti-dissociation	To end feelings of depersonalization or other dissociative states	Modest
Anti-suicide	To replace, compromise with, or avoid suicide attempts	Modest
Interpersonal boundaries	To assert one's autonomy or a distinction between self and others	Modest
Interpersonal-influence	To seek help from or manipulate others	Modest
Self-punishment	To punish oneself or express anger towards oneself	Strong
Sensation-seeking	To generate excitement	Modest

*Klonsky (2007)

Table E.4.16 Functional analysis of the consequences of non-suicidal self-injury*

	Intrapersonal	Interpersonal
Positive reinforcement	· To punish oneself · To feel relaxed	· To get attention or help from significant others · To make others angry, punish them or to exert control
Negative reinforcement	· To distract from negative thoughts and feelings (affect-regulation) · To feel something, even if it is pain (anti-dissociation) · Injuries may prevent from engaging in serious self-harm (anti-suicide)	· To avoid doing something unpleasant (this should be differentiated from malingering)

*Nock and Prinstein (2004)

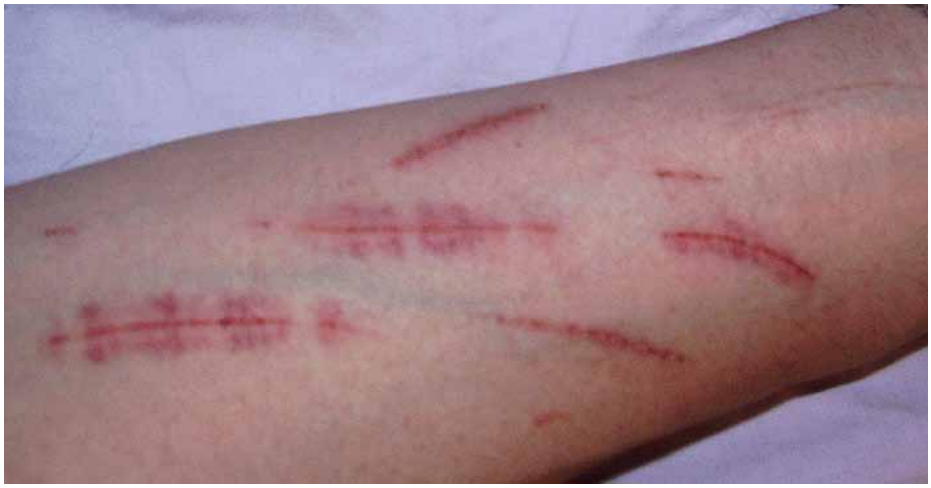
out of ten of those who initially reported self-harm reporting not self-harming in young adulthood. Self-harm was more likely to persist in females and it was associated with depression and anxiety, antisocial behavior, high risk alcohol use, cannabis use, and cigarette smoking.

Assessment

Every child or adolescent who has self-harmed should be assessed for risk of repetition and suicide risk. According to the NICE guideline (2011), assessment should take into account :

- Methods and frequency of current and past self-harm
- Current and past suicidal intent
- Depressive symptoms and their relationship to self-harm
- Psychiatric illness and its relationship to self-harm
- The personal and social context and any other specific factors preceding self-harm, such as specific unpleasant affective states or emotions and changes in relationships
- Specific risk factors and protective factors (social, psychological, pharmacological and motivational) that may increase or decrease the risks associated with self-harm
- Coping strategies that the person has used to either successfully limit or avert self-harm or to contain the impact of personal, social or other factors preceding episodes of self-harm
- Significant relationships that may either be supportive or represent a threat (such as abuse or neglect) and may lead to changes in the level of risk
- Immediate and longer-term risks.

Parents and other important caregivers should be included in the assessment. Individual assessment is essential and should take into account the psychological needs met by the self-harm described in Table E.4.15; in each individual patient one or more of them may predominate. The use of risk assessment tools and scales to predict future suicide or repetition of self-harm is not recommended by the NICE guideline.



A 16 year-old girl was called by her boyfriend who cancelled their date scheduled for that evening because his soccer (football) mates were having a meeting he preferred to go to (antecedent). She agreed during the phone call but afterwards she felt hurt and negative thoughts proliferated ("he doesn't love me", "I will lose him", "I am not attractive to him or to anybody else"). The girl felt increasingly desperate, angry with herself; urges to harm herself began to emerge. Finally, she began cutting her arms superficially with a razor, watching the blood seeping from the wounds (cognitive, emotional and behavioral reactions). While watching her arms bleed she felt relieved (reinforcing consequence). When her boyfriend found out what had happened, he apologized and comforted her (reinforcing consequence) and promised never to do anything similar again (reinforcing consequence). Together with her therapist, she explored alternative ways of coping with this situation: planning dates more carefully; voicing her disappointment and her wishes instead of silently accepting; examining alternative interpretations of her boyfriend's behavior instead of devaluating herself; finding alternative activities for the evening; considering the long-term consequences of self-harm (e.g., scarring); rewarding herself for alternative behaviors.

Treatment

For detailed information please refer to NICE clinical guideline ("The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care" (NICE, 2004). This guideline includes both the management of NSSI and suicide attempts.

Hospitalization is needed if:

- NSSI co-occurs with high suicide risk
- NSSI coexists with severe co-morbid disorders requiring inpatient treatment
- NSSI severely endangers the physical health or social functioning of the patient (e.g., repeated surgery is needed, self-harming behavior at school)
- Outpatient treatment has not been successful,
- A reliable assessment is not possible in an outpatient setting.

Patients severely harming themselves may need the same close supervision as patients with high or moderate suicide risk. Following the NICE (2011) guideline, long-term treatment of self-harm involves *psychoeducation* of patients and their families. Treatment goals may include:

- Preventing escalation of self-harm
- Reducing harm arising from self-harm
- Reducing or stopping self-harm
- Reducing or stopping other risk-related behavior
- Improving social or occupational functioning
- Improving quality of life
- Improving any associated mental health condition.

A risk management plan should be developed covering strategies to deal with the risks identified (psychological, pharmacological, social and relational). This plan should include self-management strategies and ways of accessing services and receiving support during a crisis when self-management strategies fail.

The NICE guideline also recommends considering *short-term psychological interventions* that specifically target the self-harm. Interventions could include cognitive-behavioral, psychodynamic or problem-solving elements – therapists

should be specifically trained in the treatment they use in the management of self-harm. Strategies may involve interventions already described earlier in the section on management of suicidal behavior. Individual treatment should be based on a functional analysis of the self-harming behavior that takes into account (1) antecedents, (2) type of self-harming behavior and associated cognitions, emotions and sensations, and (3) the consequences of self-harm, mainly in terms of the psychological needs met by NSSI, described in Table E.4.15.

Alternative behaviors that can be helpful instead of self-injuring comprise:

- *Low urge to self-harm: distracting activities* such as playing with a pet, listening to music and singing, reading, writing, painting, calling a friend, counting breaths, taking a warm bath, taking a walk to be near other people, using meditation or relaxation techniques, listening to a comedy tape or video, repeating 5 things one sees, smells, touches, tastes in the present surroundings.
- *Medium urge to self-harm: highly activating behavior, high sensory or low painful non-harming stimulation*, such as eating a lemon, snapping a rubber band on the wrist, running, biking, sit-ups, hitting pillows, dancing, using a red felt tip pen to mark regions on the skin where cutting usually occurs, squeezing a stress ball, making some noise, screaming into a pillow, tearing up paper (old phonebooks, newspapers).
- *High urge to self-harm: moderate painful non-harming stimulation*, e.g. chewing jalapeño pepper, taking a very cold shower, placing hands in freezing cold water, walking with dried peas in the shoes, rubbing ice across the skin where cutting usually occurs.

In severe cases, advice on *damage limitation* techniques should be given (using a clean and sharp blade, avoiding cutting areas near major veins and arteries, not sharing instruments used for self-harm; ensuring tetanus protection; having access to first aid and a basic knowledge of medical care; avoiding alcohol/drug use in association with self-harm).

Despite encouraging results from pilot studies, empirical evidence for the efficacy of psychosocial interventions, including dialectic behavior therapy, in the treatment of self-injuring behavior in adolescents still is inadequate (Wilkinson & Goodyer, 2011). There is also no evidence supporting the use of medication to reduce self-harm, although medication may be indicated to treat comorbid disorders.

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Ruslana Sergeyevna Korshunova (1987-2008), a very successful Kazakh model, jumped to her death from the ninth-floor balcony of her Manhattan apartment.