CHAPTER 1

Assessment of suicide risk

Rajan Chawla

Suicide can be defined as self-inflicted death with evidence that the person intended to die (Kaplan & Sadock, 1998; Jacobs *et al*, 2003). It is a major cause of death: in fact, the tenth most common cause of death worldwide (1.5% of all deaths; Hawton & Heeringen, 2009). Suicide accounts for approximately 5000 deaths per year in the UK and, according to the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness report (2011), this rate has decreased over the past decade. The most common methods of suicide in the UK are hanging, overdose (self-poisoning) and multiple injuries (caused by jumping from a height, for example, or train incidents). It also reports that suicide by hanging has increased, while suicides by carbon-monoxide poisoning, self-poisoning and firearms fatalities have decreased.

Assessing risk in patients presenting with suicidal ideation is fundamental to the practice of psychiatry. A structured and systematic approach that evaluates risk is needed to inform decisions about the patient's care. Many trained professionals report difficulty in assessing risk (Way *et al*, 1998), and assessment might be more complicated for informal in-patients (Mahal *et al*, 2009).

Half of all people who die by suicide have had previous contact with mental health services, and half of this group have had contact within the previous 12 months (Department of Health, 2001). This finding is consistent with the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness report (2011), which estimated that 24% of suicides had been in contact with mental health services in the year before death. Predictors of suicide include male gender, substance misuse, increased age, previous suicide attempt, violent method of suicide attempt and history of psychiatric disorder (Nordentoft, 2007).

Key features in assessment

National Health Service trusts and other service providers have varying protocols, or in some cases no protocol at all, for assessing suicide risk. Junior

doctors and other professionals fear that they are ill-equipped to assess suicide potential (Bongar & Harmatz, 1991; Boris & Fritz, 1998; Sudak *et al*, 2007). The effects of clinical experience on professional judgement have not been sufficiently evaluated; neither have the intuitive benefits of empathy and non-judgmental rapport on outcome been confirmed.

Risk factors

Predisposing factors for suicidal thinking and behaviour have been extensively researched. While assessment of risk is important, this can at best be but conscientious. Most individuals who have thoughts of or display behaviours of self-destruction will not kill themselves. Defensive practice when weighing this causes unnecessary admissions to general or mental health settings, not only adversely affecting the patient's well-being but also causing misuse of resources and diverting attention from the effective care of others.

Suicide risk factors have been categorised as baseline, acute, chronic high risk and chronic high risk with acute exacerbation (Bryan & Rudd, 2006). Others have classified these factors as static, stable, dynamic or future (Bouch & Marshall, 2003).

Static risk factors are usually historical facts, and cannot be changed. Examples of static factors are childhood trauma, a history of mental health problems, alcohol and illicit substance use and previous suicidal behaviour.

Dynamic risk factors, on the other hand, can change. For example, a coexisting psychiatric disorder might fluctuate. Future risk factors can be predictable; for example, an anniversary or any forthcoming likely stressful event. Physical illness can also be a risk factor, for instance patients with physical illness such as stroke, myocardial infarction, cancer, chronic pain and neurological disorders can present with suicidal ideation.

A list of factors that increase the risk of suicide is given below. Perhaps predictably, the higher the number of risk factors an individual has, the higher their risk of suicide (Schwartz & Rogers, 2004):

- increasing age (>45 years for men and >55 years for women)
- previous suicide attempts
- male gender
- family history of completed suicide
- isolation from family, friends or significant others
- any acute changes in health status, worsening of physical illness
- alcohol and other substance misuse, abuse or dependence
- domestic violence
- social isolation
- access to lethal means
- unemployment, financial difficulty
- severe anxiety, depression, psychotic disorder, or other mental illness

- impulsivity and hopelessness
- chronic pain
- poor prognosis of associated illness
- previous suicide attempt
- recent discharge from a hospital.

Klonsky *et al* (2012) investigated the association between hopelessness and attempted suicide in psychotic disorders. Their results suggest that even modest level of hopelessness seem to confer an increased risk of suicide in patients with psychotic disorders.

Patients under the care of drug and alcohol treatment services have higher rates of attempted and completed suicide (Ross *et al*, 2012). Having known someone who died by suicide increases the risk of subsequent suicide in vulnerable people (Crosby & Sacks, 2002). De Leo *et al* (2005) emphasise that suicidal tendency fluctuates over time. Crucially, the presence of mental illness increases risk and, in depressed mood, the probability of experiencing suicide ideation is increased by up to three times (De Leo *et al*, 2005).

Miret *et al* (2011) found that individuals are more likely to be treated in a psychiatric hospital after a suicide attempt if they have history of previous suicide attempts or past psychiatric treatment, show suicidal ideation or suicide planning, and when they lack family support.

Physical illness is linked with an increased risk of suicide, particularly in the presence of mood disorders or other psychiatric disorders (Jacobs *et al*, 2003). Evidence suggests that some diagnoses, including HIV, lung diseases, cancer and neurological conditions such as Huntington's chorea, are specifically associated with a higher risk of mental health problems and suicide (Goodwin *et al*, 2003)

Risk of suicide is increased after discharge from psychiatric in-patient care, and has been found to be 100 times higher than among the general population (see Hunt *et al*, 2009). Hunt *et al* (2009) have explored various possibilities that might account for this: poor follow-up in the community; disjointed continuity of care; self-discharge; and deterioration following reduction of care. The first 2–3 weeks after discharge are considered a period of high risk; the first week in particular is a time of increased vulnerability (Hunt *et al*, 2009). Association of suicide with mental illness, alcohol and illicit substance misuse might exacerbate risk and is discussed below.

Men are more likely to take their own life than women, but more women than men attempt suicide or self-harm (Kaplan & Sadock, 1998). Marriage seems to be a protective factor, at least for men. Divorced men have been shown to be nearly 2.4 times more likely to take their own life than their married counterparts (Kposowa, 2000). Social isolation, loneliness and lack of social support or network increase the risks of attempted and completed suicide, particularly in older adults (Waren *et al*, 2003).

Genetic vulnerability to suicidal behaviour might be a predictor of suicidal behaviour in adolescents, reflected in a family history of suicidal behaviour.

Assessment

An odd, widely held perception is that every suicide is predictable and consequently could have been prevented by healthcare professionals. In reality, identifying those most at risk of suicide is difficult. Even when concerns are highlighted, practical management will be necessarily constrained by resources, patient views and legal considerations. Bryan and Rudd (2006) argue that the clinician's role is not to predict suicide, but to identify when a patient is at increased risk of attempting suicide and respond appropriately. Comprehensive clinical assessment is paramount in identifying the intensity of suicide risk. The overall aims of assessment are as follows:

- to evaluate individual suicide drivers versus protective factors
- to understand the level of severity of suicidal intent
- to identify factors that can change the severity of risk
- to provide care and therapeutic interventions; this might include or preclude hospital admission.

Making decisions about suicide risk management is an integral part of psychiatric practice. A structured and systematic approach to assessment is beneficial in identifying those at higher risk. During the assessment, the following questions may be useful (the emphasis placed on each will depend on the circumstances of each case).

- What is the likelihood of an untoward incident?
- What are the possible consequences if it were to occur?
- Can this be prevented and, if so, how?
- Is there stated intent to employ violent and immediate means? If so, is there ready access to this means (e.g. dangerous weapons, railway line)?
- How and where can this individual be supported?
- What are the immediate and long-term plans to improve outcome?
- What is the overall level of risk?

Thorough assessment will allow the formulation of a management plan that is proportionate and as safe as possible. 'Safe' can have a different meaning for different individuals, depending on their unique circumstances. For example, one patient might have a partner who can take time off work to provide support, whereas another patient might have a partner with his or her own health problems, who is unable to provide the support needed.

Competent assessment is a complex process requiring training, knowledge and experience. Individual situations will vary and a checklist approach should be avoided.

Background information and current presentation

Distressed people might be reluctant to disclose their situation without prompting. Questions should be asked about the following factors:

- significant stress (e.g. death of a loved one)
- mental health problems (e.g. depression, psychosis)
- substance misuse
- previous suicide attempts and self-destructive behaviour
- emotional, sexual or physical abuse
- medical illness or chronic physical problems.

A close family member or a friend can provide invaluable information and insights into the person's history, recent significant factors and recent changes in their demeanour or behaviour. Contrary to myth, individuals who have repeatedly self-harmed are not at lower risk of fatal action. Indeed, a previous history of thoughts of self-harm predicts increased risk.

Suicidal intent

It is a common misconception that asking about suicide increases the likelihood of a person attempting suicide. This is untrue and an open discussion about suicidal ideation is crucial to thorough assessment (Schwartz & Roger, 2004). Gathering details of the persistence of such ideation and over what period of time, the drafting of a suicide note or putting affairs in order, the use of alcohol or other drugs, and an assessment of impulsivity informed by these factors, past actions, emotional state and subjective reporting of intent will all help to determine the level of risk. Further enquiry into detailed planning or efforts to access ligatures, exhaust hoses, lethal chemicals or weapons (for example) is crucial.

Repeated, frequent risk assessments

Suicide risk will change, as suicidal ideation is usually dynamic. Consequently, it is important that assessment is repeated regularly. Suicide has occurred on wards, in police stations and indeed on intensive care psychiatric units when the patient has been under constant observation (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2011). Ligature points (any environmental feature that could be used to support a strangulation device) on windows or doors are commonly employed and belts are sometimes used as a ligature.

Protective factors

Protective factors are crucially weighed in the assessment of suicide risk:

- strong psychosocial supports (e.g. a supportive partner)
- evidence of previously deployed coping mechanisms

- cultural and religious beliefs against suicide
- reasons for living (e.g. children or animals)
- worthwhile employment, whether paid or voluntary
- positive plans for the future
- insight into psychological distress and causes for this (e.g. comorbid physical illness)
- medication adherence
- engagement with a healthcare professional or wider services.

Mental state examination

Observation of behaviour by an informed assessor can reveal crucial information about a patient's unspoken feelings and lend another dimension to informing the formulation. Undergraduate texts describe the more obvious signs of mental illness, such as distraction, preoccupation, and psychomotor retardation. However, the experienced clinician will also be alert to more subtle evidence of distress, such as a fleeting tendency to tearfulness that might be contained or a person 'talking past' an enquiry about a potentially painful subject. Gently refocusing on relevant points and revisiting topics that the patient might prefer to skate over will be necessary. Whatever the patient's response, be it reassuring explanation, anger, tearfulness, or remaining mute, it will be helpful in determining what is going on and how best to assist. Open questions are most helpful in gauging how best to negotiate the interview and identify areas of concern for the patient in a non-threatening and non-directive fashion. Selective use of closed questions will be appropriate in defining matters more precisely at pertinent stages in the interview, and will be needed to concisely conclude matters that might be distressing for the patient. Sufficient time must be given to allow emotional topics to be kindly broached in a sensitive manner, with allowance for silences and gathering thoughts if necessary.

Suicide and mental illness

People with a history of mental illness or suffering from current mental health problems are at higher risk of suicide compared with those without mental health issues. Common psychiatric diagnoses associated with suicide in the UK are listed below (Hunt *et al*, 2006; National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2011):

- affective disorders (32–47%)
- schizophrenia (15–20%)
- alcohol dependence (8–17%)
- personality disorder (8–11%)
- drug dependence (3–9%).

More than 90% of people who die by suicide are clinically depressed, and the presence of another mental health problem or substance use-related disorder is an added risk factor (Moscicki, 2001). Comorbidity of mental disorder and physical illness also increases suicide risk (Lönnqvist, 2000).

Mental disorders, especially depression, are present in more than 90% of suicides, and over 80% are untreated at the time of death (Lönnqvist *et al*, 1995; Henriksson *et al*, 2001). A lifetime suicide risk of about 6% has been calculated for all depressed patients (Inskip *et al*, 1998). However, the majority of individuals with suicidal thoughts do not attempt to kill themselves (Kessler *et al*, 1999).

Substantial evidence indicates that early detection of risk and subsequent risk management reduces the incidence of suicide (Appleby, 2012). Melle *et al* (2004) investigated the effects of preventive measures on the rate of suicidal thoughts and attempts. They concluded that such behaviour was significantly less common in individuals who received early assessment and intervention, including regular contact and repeated reviews. Worryingly, Hunt *et al* (2006) found that over 60% of individuals with schizophrenia who died by suicide had been in contact with mental health services in the week before. Effective treatment and intervention is the key to decreasing the risk of suicide in people suffering from mental illness. Risk factors for suicide with mental illness include not taking medication, non-engagement with mental health teams or services, and failure to seek help in case of relapse.

MacLean *et al* (2011) examined the association between suicidal behaviour and physical illness in individuals with a history of mood disorder. They found that physical problems such as respiratory diseases and hypertension are associated with increased suicidal behaviour, independent of any comorbid mental illness. Tidemalm *et al* (2008) investigated the impact of psychiatric illness on continuing risk after a suicide attempt, and confirmed that the severity of mental disorder at the time of a suicide attempt significantly influences future risk. A large number of suicides occur in the first year after an unsuccessful suicidal action, emphasising the importance of high-quality aftercare following discharge.

Individuals with schizophrenia or other psychotic conditions are often considered unpredictable and dangerous. Although some individuals might be vulnerable to a rapidly deteriorating mental state, this possibility should be factored into a risk management plan, with particular consideration given to how relapse can be quickly detected and action taken. Stereotyped generalisations regarding unpredictability and any consequential sense of misplaced inevitability is inappropriate and might result in a higher risk of suicide (Fialko *et al*, 2006). Individuals with improving insight might suffer low mood, hopelessness and a higher risk of suicide. This can occur in the wake of successful response to antipsychotic medication (Lysaker *et al*, 2007).

Suicide and alcohol and drug use

Alcohol and drug dependence, particularly substance misuse, are significant risk factors for suicide (Kessler *et al*, 1999; Darke *et al*, 2000; Coffin *et al*, 2003; Sher, 2006; Bohnert *et al*, 2010). Individuals recently discharged from prison or hospital are also at increased risk of death by overdose that might be accidental because of a reduced level of tolerance after a period of institution-imposed abstinence (Seymour *et al*, 2000).

Individuals commonly use alcohol and drugs to cope with suicidal ideation, and lifetime mortality due to suicide in people dependent on alcohol is approximately 18% (Sher, 2006). If dependency follows, this might further increase the risk of suicide (Murphy *et al*, 1992).

In their study on suicides among alcohol abusers, Murphy and colleagues (1992) found that more than four-fifths of those who took their own life had communicated that they had suicidal thoughts and over a third had made a previous suicide attempt. Two-thirds had little or no social support, half were unemployed and half had significant medical problems. Nearly two-fifths were living alone. Murphy and colleagues (1992) concluded that, as nine out of ten 'alcoholic' suicides assessed had at least three of the above factors, the assessment of suicidal risk in this group should consider these factors.

Risk minimisation

Suicide risk assessment is individual specific, requiring a systematic, yet flexible approach. Common methods of suicide in England include hanging, drug overdose, jumping from a height and car exhaust (carbon monoxide) poisoning. Men are more likely to use violent methods, such as hanging (Varnik et al, 2008).

Evidence for the effectiveness of psychotropic medication treatment is limited. Lithium is effective in reducing suicide risk in both bipolar affective disorder and unipolar depression (Baldessarini *et al*, 1999). Clozapine might reduce the suicide rate in individuals with schizophrenia, but this benefit is possibly offset by increased mortality related to metabolic syndrome.

Prevention

Prevention measures can be classified as primary or secondary. Primary preventive measures include educational programmes for mental health professionals and other healthcare workers. Providing public information about where to seek help in crisis is an important measure that can be focused on voluntary agencies and other providers that interact with high-risk populations. Other strategies include restriction of access to methods for suicide. Lester (1998) recommended a number of ways to do this, including strict gun laws, vehicle emissions control, restricting access to the tops of buildings, fencing bridges, limiting the packet size of medication

frequently used for suicidal acts, packaging pills in plastic blisters, and seeking permission to remove high-risk items from the homes of those vulnerable to suicidal thinking (see also Mann *et al*, 2005).

Secondary prevention includes screening of at-risk individuals, providing appropriate support and treatment when indicated to reduce risk of further harm, and educating patients and carers about mental disorders. There has been a recent decrease in hospital suicide rates, probably due in part to guidelines by the Department of Health regarding removal of ligature points on wards (National Confidential Inquiry into Suicide and Homicide by People with Mental Illness, 2013).

Summary

Not all deaths by suicide are preventable. However, the high-quality assessment of vulnerable people, with the careful evaluation of risks and the formulation of robust care plans, is essential in preventing as many suicides as possible. The capacity of services to deliver appropriate treatment and sufficient support when early signs of relapse indicate a need is the challenge to be met.

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