# Self-poisoning and self-injury in adults

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## Definition and terms used

Self-harm includes:

- *self-poisoning:* taking a drug overdose or ingesting substances never intended for human consumption
- *self-injury:* causing physical injury such as cutting.

## Epidemiology

There are currently no national registers in England, Scotland and Wales and the national monitoring system in Ireland is in the early stages of development. Epidemiological studies have historically relied on monitoring systems in accident and emergency (A&E) departments or in psychiatric services, but gathering accurate data from either source is difficult. These methods fail to account for people who present only to their general practitioner (GP)[1] or who do not present to health services at all.

Rates of self-harm rose dramatically from the late 1960s to the early 1970s, then decreased in the early 1980s only to rise again by the end of the decade. In most cities the annual rate is about 400/100,000[2]. This rise has been particularly noticeable in men aged 15–24 years and women aged 25–34 years, with recent UK studies showing a female to male ratio of 1.6:1. UK statistics indicate one of the highest rates of self-harm in Europe[3].

## Changes in patterns of self-poisoning

Paracetamol and paracetamol compounds remain the drugs most commonly used in self-poisoning. Legislation in September 1998 resulted in a decrease in the numbers of paracetamol or salicylate tablets provided in a pack. Early reports suggest a decrease both in deaths from overdose and in life-threatening self-poisoning with paracetamol. The numbers of admissions to liver units and of liver transplants required subsequent to paracetamol overdose have also decreased[4]. The use of antidepressants in overdose has risen, with a parallel decrease in the use of minor tranquillisers and sedatives.

## Key Points

- **Rates of self-harm in the UK are among the highest in Europe (ca 400/100,000 per year)**
- **Social and psychiatric problems are associated with self-harm, particularly when individuals have had early childhood experience of loss or abuse**
- **Management of self-harm in general hospitals should include a psychosocial assessment to establish risk for suicide or further self-harm and to help patients access appropriate services**
- **Established theories of self-harm have highlighted the importance of thinking styles, affect regulation and interpersonal factors**
- **There are established treatments to improve social problems and other aspects of psychological function, but none has yet been shown effectively to reduce repetition of self-harm**

**KEY WORDS: assessment, cognitive, epidemiology, outcomes, psychodynamic, psychosocial, self-harm, treatment, vulnerability**

## Associations with self-harm

### *Social factors*

People who self-harm are more likely to be from social class V. However, the influence of employment status and social class is not clear-cut. Compared with men who are employed, unemployed men are also more likely to be single, not live with their family, be of lower social class, have a diagnosis of abnormal personality, misuse drugs and have a criminal record. Socio-economic deprivation and social fragmentation may each make an independent contribution to self-harm rates, particularly in men[5].

### *Psychiatric disorders*

Probably one-half to three-quarters of people suffer from depression at the time of self-harm, although depressive symptoms may have dropped substantially only days after the episode[6]. Over half the patients may meet criteria for personality disorders, a label characterising people who have long-standing difficulties with relationships, difficulties integrating in society or criminal behaviour[7]. Repeated self-harm is most often associated with so-called borderline personality disorder, which is linked to difficulties with regulation of emotion and behaviour.

## Antecedents of the act

*Long-term vulnerability factors* include:

- early loss of, or separation, from parents
- difficult relationships with parents signified by rejecting or overprotective parenting styles[8]
- abuse in early life – although sexual abuse has been highly associated with self-harm, emotional or physical abuse is also important.

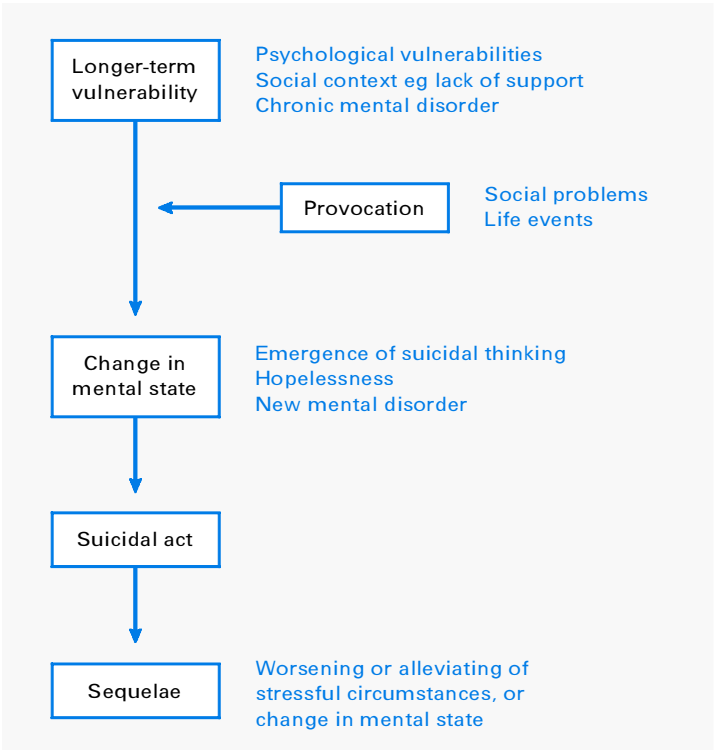


**Fig 1. The pathway to self-harm.**

*Short-term vulnerability* includes:

- current difficulties in relationships
- work or health-related problems
- drug and alcohol misuse.

*Precipitating factors* are likely to be stressors experienced in the few days immediately prior to self-harm. They interact with long- and short-term vulnerability factors to 'push people over the edge' or to overload their capacity to cope. Again, relationship problems, financial worry, anniversaries, death or other losses can act as precipitators to the act of self-harm.

## Aetiological theories (Fig 1)

### *Biological and genetic factors*

Low levels of serotonin have been found in the cerebrospinal fluid of people who have displayed suicidal behaviour, particularly those using more violent methods of self-harm[9]. This link is consistent with similar findings in violent offenders. Low levels of serotonin are diagnostically non-specific and have been associated with impulsivity, depression, personality disorders, schizophrenia and alcoholism – all high-risks for self-harm.

Whilst there are biological theories of suicide, biological and genetic theories of non-fatal self-harm remain speculative and currently have no clinical application.

### *Psychological factors (Table 1)*

*Trait theories*. Those who self-harm score higher on *impulsiveness* than would be expected from the normal population; after controlling for age effects, those who repeat self-harm are more impulsive than those who have self-harmed only once. In one study of non-fatal self-harm[8], 50% later said they had not planned the act for more than an hour beforehand.

*Cognitive theories*. When dealing with a difficult situation, *dichotomous thinking* (the tendency to view experiences in terms of mutually exclusive categories, sometimes also called black-and-white thinking), makes it difficult to identify options or to see how the situation might change. This *cognitive rigidity* leads to problem-solving difficulties. Patients who self-harm have more passive problem-solving styles than other patients, with solutions less versatile and less relevant to the problem.

*Poor problem-solving ability* is linked to deficits of *autobiographical memory*[10]. When asked to generate specific memories in response to given cue words, those who self-harm tend to respond with general memories rather than specific ones. Thus, when life stresses arise people who have rigid styles of thinking cannot deal with the situation effectively. These psychological characteristics may arise in response to, and interact with, social and personal deprivation (Fig 2). This then leads to hopelessness, which increases the risk of self-harm. *Hopelessness* and poor problem-solving ability may, however, act independently to increase risk.

*Psychodynamic theories*[11]:

- The *affect regulation model* describes difficulties with tolerating the inner experience of emotions, expressing emotion and maintaining emotional stability. According to this model, the act of self-harm helps stabilise mood state by allowing expression of emotions that the individual can no longer tolerate. An example might be anger directed towards the self, thus preventing it from being directed at and destroying the person to whom the anger is felt.
- The *interpersonal model* focuses on the inability of some individuals to separate the self from others, so that negative emotions directed at others threaten the destruction of the self. Self-harm is a paradoxical attempt to prevent this self-destruction.

**Table 1. Psychological theories of self-harm.**

| |
|---|
| **Trait theories** |
| Impulsivity |
| **Cognitive theories** |
| Dichotomous thinking |
| Cognitive rigidity |
| Poor problem-solving |
| Autobiographical memory |
| Hopelessness/helplessness |
| **Psychodynamic theories** |
| Affect regulation model |
| Interpersonal model |

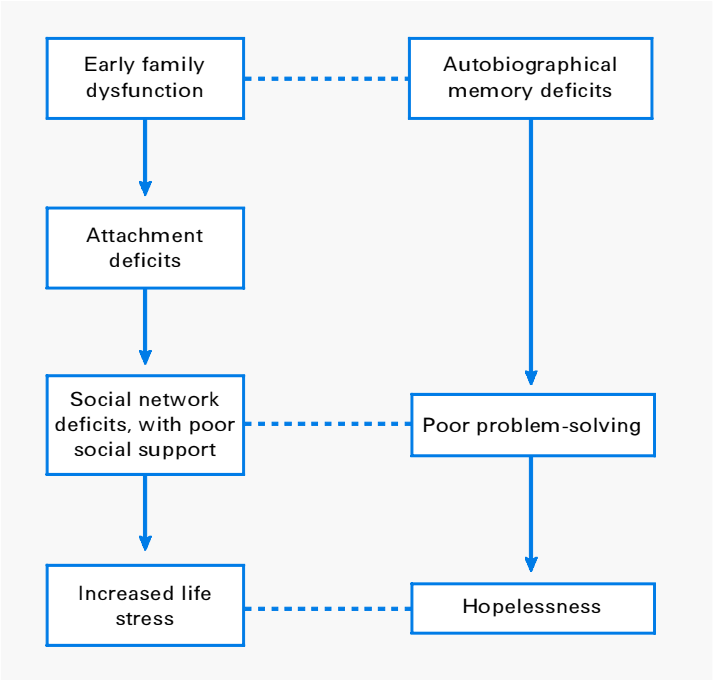


**Fig 2. Relationship between social and psychological vulnerabilities to self-harm.**

**Table 2. Factors associated with an increased risk of repetition of self-harm.**

| | |
|---|---|
| **Clinical** | Previous episode of self-harm |
| | Previous psychiatric treatment |
| | Current psychiatric treatment |
| | Alcohol dependence |
| | Substance dependence |
| | Severe physical illness* |
| **Social** | Antisocial personality |
| | Criminal record |
| | Lower social class |
| | Separated from partner |
| | Unemployed |
| **Personal** | Lack of co-operation |
| | Regrets about survival |
| | Near-fatal act* |
| | Male* |
| | Middle-aged or older* |

* risk factors for completed suicide.

## Outcomes after self-harm

Self-harm will be repeated within one year by 15–16% of people. Non-UK and UK studies show that suicide is committed within a year of self-harm by a median of 2.4% and 0.5%, respectively. If it is accepted that around 1% of people will commit suicide within a year of self-harm, this amounts to a quarter of all suicides in the UK.

A number of factors increase the risk of repetition and suicide (Table 2). Although they can be helpful in alerting management, they do not have sufficient predictive value to form the sole basis for deciding to whom psychiatric follow-up should be offered. In any case, repetition is not the only relevant outcome. Problems like depression, social and personal difficulties are likely to persist over the first year after an episode.

## Management of self-harm in general hospitals

Management of self-harm in general hospitals has been variable: for example, the proportion discharged from A&E without a psychosocial assessment ranges from 15% to 46%, while between one-third and two-thirds receive a psychosocial assessment at any stage of their hospital contact[12]. Assessment (Table 3) can be undertaken by a variety of medical and non-medical staff, but they need to be trained and supervised by senior staff.

Some patients are uncooperative. If a person lacks mental capacity (usually because of something ingested during self-harm), treatment can be under common law. If there is evidence that mental disorder, however transient, is impairing judgement, the Mental Health Act (usually Section 2) may be used to detain a patient to allow a period of assessment. It is debatable whether Section 3 of the Act can be used to treat the physical consequences of self-harm if a patient is mentally disordered but still has the mental capacity to withhold consent[13].

Proper communication between hospital doctors and GPs ensures co-ordination of any plan derived from the psychosocial assessment. Where psychiatric help is offered, it must be seen to be relevant to the problems faced by each patient so as to improve uptake of aftercare[14].

**Table 3. Components of the basic (initial) psychosocial assessment of self-harm.**

The medical record should contain the following details:

- conscious level and orientation
- current mental state
- attitude to survival/current suicidal thinking
- psychiatric history
- social situation and recent events
- current alcohol and drug use
- risk of harm to self or others
- decisions taken
- specific arrangements for follow-up
- communications with others

## Challenges to service delivery

Many people who attend hospital after self-harm will leave without a psychosocial assessment, either because they do not stay long enough or because they are discharged without being referred for such an assessment. Even those who are assessed may not be offered follow-up. Where follow-up is arranged, difficulties arise with co-ordinating care:

- patients are often placed on long waiting lists to be seen by community mental health services
- appointment letters are not received
- many patients do not attend their follow-up appointments.

Patients often express dissatisfaction with the services provided. Negative attitudes among staff – from A&E through to the self-harm services themselves – can influence effective assessment, treatment or intervention.

## Intervention and treatment after self-harm

A variety of interventions is available, including:

- crisis intervention
- crisis cards
- problem-solving therapy
- dialectic behaviour therapy, a technique designed to promote insight and change via skills training, introspection and validation[15].

Psychological treatments such as problem-solving therapy improve depression, hopelessness and reported problems, all of which are contributory factors for repetition of self-harm. Other options are medications to treat an underlying psychiatric disorder and psychotherapy to address long-standing vulnerability factors.

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