

What precipitates deliberate self-harm? A cognitive behavioural formulation of attempted suicide presentations at an inner city hospital

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Abstract

Objective: To develop a working model that provides an understanding of the process of deliberate self-harm and a framework for psychological intervention in an emergency department setting.

Method: A retrospective clinical audit of a consecutive series of 51 deliberate self-harm patients referred to the liaison psychiatry service by the emergency department of an inner city hospital.

Results: Patient characteristics were diverse. The age range was 17–92 years, with 79% between 15 and 35 years. Most were single and unemployed and the majority had a psychiatric disorder. Characteristically, there was at least one immediate stressor and intoxication immediately before the attempt.

Conclusions: The diversity of deliberate self-harm patients requires strategic intervention in a setting such as the emergency department. The working model for intervention presented here may be transferable to other settings such as general practice or community mental health centres using an educational and skills development approach with ongoing supervision.

Background

The rate of suicide and deliberate self-harm has been rising in Australia, particularly among the young (Morrell et al. 1993). There is a need to understand contributory factors and to develop strategies both to prevent its occurrence and to manage people who present with such problems.

There have been a number of barriers to understanding deliberate self-harm. For example, historically, the reliability of suicide statistics has been problematic (Gelder, Gath & Mayou 1989). Moreover, explanatory models for suicide have not changed qualitatively since early last century. Berrios (1996) has outlined the history of conceptual models of deliberate self-harm, tracing the transformation of suicide from a moral, religious and legal problem into a medical and/or social problem. Current literature on deliberate self-harm includes some extreme examples of the medical model (Abbar et al. 1995) and some exclusively sociological formulations (Johansson & Sundquist 1997; Maris 1997). But the most widely accepted approach is an integration of these two (see, for example, Levy, Jukovic & Spirito 1995; Gould et al. 1996; Moscicki 1997). There is, however, no one model offering a clear causal pathway from known social risk factors for populations (for example, unemployment, homelessness) to known individual medical/psychiatric risk factors (for example, hopelessness, alcohol abuse, depression).

The medical/psychiatric view emphasises individual psychopathology and sees suicide as a symptom of mental illness. The social view formulates self-harm as an understandable response to social factors (Morrell et al. 1993; Berrios 1996), so that an otherwise healthy person might self-harm, drawing attention to the person's motivation and reasons for self-harm.

With regard to intervention, many of the known social risk factors require systemic or sociopolitical responses, clearly beyond the scope of a setting such as the emergency department, where many deliberate self-harm patients present. By implication, national statistics on suicide and self-harm may not be fair measures of the efficacy of a health service (Pritchard 1995).

In managing individuals presenting with deliberate self-harm, there is often a focus on the individual as an ill person, for example, a recent proposal to require automatic hospitalisation after deliberate self-harm (Tehan & Murray 1996). Such a policy reflects an exclusive medical/psychiatric model, ignores the clinically important differences between subgroups with this presentation (Rudd, Joiner & Rajab 1996; Safer 1997; Vassilas & Morgan 1997), and has not been demonstrated to prevent further deliberate self-harm (van der Sande, Buskens et al. 1997; van der Sande, van Rooijen et al. 1997). Studies of medical decision-making suggest

that if a more experienced clinician conducts the initial assessment, the patient is less likely to be hospitalised (Morrissey et al. 1995; Dicker et al. 1997). Given the high rate of drop-out from outpatient follow-up (Van Heeringen et al. 1995), it is important to engage the deliberate self-harm patient in a therapeutic alliance as soon as possible after presentation. Thus in a setting such as an emergency department, there is a need to understand each individual patient who presents with suicidal feelings or recent self-harm, and then intervene appropriately at that point of contact. There is also a need to have more skilled clinical staff available for the assessment/initial engagement.

Clinical audit defining characteristics of self-harm presenters to an emergency department

In this paper we focus on answering three questions:

Who presents to an emergency department with deliberate self-harm?

How can we better understand what 'caused' the self-harm attempt and thus develop a working model of intervention?

What can be done psychologically through the emergency department to manage self-harm?

We investigate the characteristics of a group of deliberate self-harm patients who were referred to liaison psychiatry from the emergency department of an inner city hospital. We then describe a model for understanding the process of self-harm and presentation, with an emphasis on the mix of factors unique to each person who has self-harmed. Finally, we describe a model for patient intervention and staff training in the emergency department setting.

Methods

In this retrospective study, clinical data were collected on all 'attempted suicide' referrals to the liaison psychiatry service from the emergency department at St Vincent's Hospital, Darlinghurst, over a three-month period in 1995. Deliberate self-harm patients who presented after hours and were rapidly discharged, those who died soon after presentation, or those who had been referred to on-call services were not included. After-hours patients who were admitted overnight for medical management and were referred to the liaison service the following day were included.

Data were collected from file notes. Sociodemographic data including the patient's age, gender and relationship status were noted. On interview, the liaison

psychiatry registrar elicited specific details of the self-harm attempt, including the method used, concomitant life events and other stressors, current social supports, presence of physical illness and psychiatric disorders, using the DSM classification system of the American Psychiatric Association (1987). This allows patients to have more than one current diagnosis (for example, alcohol dependence and borderline personality disorder) and includes categories for psychological distress in response to life events.

Results

Patients

A total of 53 patients were referred to the liaison service as part of the audit. There were three repeat presentations during this three-month period. No information was available for two referred patients and they were excluded from analyses, leaving 51 patients.

The mean rate of new deliberate self-harm referrals for the period was 17.66 referrals per month. This represented 2.4% of emergency department presentations and 25.7% of liaison referrals for that period.

Sociodemographic status, age and sex

The age range was 17–92 years (Table 1). The median age for females was 25 years, with 33% aged between 15 and 20. The median age for males was 31 years. Only 10% of males and 16.6% of females were over 40 years of age. Approximately 90% of the patients were single (single, separated or widowed) and lived alone or in rented accommodation with few social supports. Only 25% were in full or part-time employment. This profile of our study group is similar to literature reports (Cassem 1991; Hawton & Fagg 1992; Johanssen & Sundquist 1997; Maris 1997; McEvedy 1997) and similar to the profile of deliberate self-harm patients for the local area (Nirui 1995), except for the excess of males in the 31–45 year age group, which reflects the hospital's inner city location with high rates of homelessness, high levels of substance abuse and a large gay male population.

Table 1: Sociodemographic status of suicide attempters

Sex	
Males	28 (55%)
Females	23 (45%)
Age	
Range	17–92 years
Median – males	31 years
– females	25 years
– combined	28 years
Relationship status	
Single	27 (72.5%)
Separated/divorced	5 (9.8%)
De facto/married	5 (9.8%)
Widowed	4 (7.8%)
Employment status	
Working, full or part time	13 (25.5%)
Unemployed	22 (43%)
Pensioners	11 (21.5%)
Students	5 (9.8%)

Nature of the self-harm attempt

Table 2, a summary of the methods used, shows that the most frequently employed method of attempted suicide was self-poisoning (88%).

Circumstances surrounding the attempt

As in many other studies of deliberate self-harm (Gould et al. 1996; Beautrais, Joyce & Mulder 1997), most patients reported that their attempt was an immediate response to a triggering event or significant ongoing difficulties. The most frequently reported triggering events involved relationship disruption, accommodation or financial difficulties. Often patients reported multiple stressors. Some denied feeling suicidal at the time of the self-harm attempt, but cited anger at another person or a wish to escape their predicament. Thirty-one patients (61%) reported that they were intoxicated, most commonly with alcohol and/or benzodiazepines, immediately before the attempt. These rates are comparable to those reported in other studies (Suokas & Lonnqvist 1995; Borges & Rosovsky 1996; Beautrais, Joyce & Mulder 1997; Moscicki 1997).

Table 2: Frequency of methods of deliberate self-harm

Method	Frequency
Overdose	
Benzodiazepines	28
Paracetamol	9
Tricyclic antidepressants	5
Antipsychotics	3
Other (heroin, barbiturates, morphine, and so on)	11
Cutting	3
Hanging	2
Gassing	1

Psychiatric diagnosis

Table 3 shows the frequency of psychiatric diagnoses.

Table 3: Frequency of psychiatric diagnosis

Diagnosis	Frequency
Personality disorder	21
Adjustment disorder	5
Schizophrenia	3
Major depression	9
Bipolar disorder	1
Substance abuse/dependence	31 alcohol – 19 other – 12
Dysthymia	3
Conduct disorder	3
Organic syndrome (not specified)	3

Physical illness

Concurrent physical illness was a significant factor in this sample, with 16 (31.4%) having a co-morbid physical illness, including epilepsy, HIV/AIDS, hepatitis C, asthma, ischaemic heart disease, chronic airways limitations, pneumonia and chronic pain. Older patients were much more likely to have both a serious depressive illness and concomitant physical illness. Chronic illness and/

or pain are well-recognised risk factors for self-harm and suicide (Cassem 1991; Johanssen et al. 1997), and are of particular importance in the elderly (Dennis & Lindesay 1995; Conwell 1997; Grabbe et al. 1997; Lambert & Fowler 1997).

Management and follow-up

The majority of patients did not maintain suicidal ideation and after one or two interviews and treatment for the effects of the overdose were able to be discharged. Seven patients were admitted to a psychiatric ward/hospital, four were admitted to a general ward and had ongoing psychiatric management during their admission, including ECT for one elderly patient. The rest were discharged to follow-up by a range of services, including community mental health, drug and alcohol services, private psychiatrists and general practitioners.

Developing a process model of self-harm

We propose a working model for understanding and intervention for deliberate self-harm presentations on the basis of the above data, observations from the literature and cognitive behavioural theory and research (Beck et al. 1979; Lazarus & Folkman 1984).

Cognitive behavioural therapy draws upon a broad knowledge base in the cognitive behavioural literature, including coping with life events (Salkovskis, Atha & Storer 1990), cognitive vulnerability to emotional disorders (Lazarus & Folkman 1984) and problem-solving (Nezu & Perri 1989). The central argument of this approach is that the person's appraisal of the event and their existing set of coping skills mediate the impact of life events such as unemployment, the break-up of a significant relationship or assault. Thus the cognitive behavioural paradigm provides a model to link social 'causes' of deliberate self-harm and individual psychiatric 'causes'.

Successful copers minimise the meaning and impact of negative events by appraising them as less threatening (*primary appraisal*), by seeing them as less important, less harmful or temporary. They have greater confidence in their own ability or the strength of their supports to manage (*secondary appraisal*) (Salkovskis, Atha & Storer 1990). Consequently, their distress is less severe and of shorter duration, and they are more likely to adopt strategies which will relieve rather than exacerbate the situation.

As in the case of the deliberate self-harm patients in the emergency department, poor copers (Figure 1) are less able to balance the impact of the events (Wilson et al. 1995). Their primary appraisals are that the events are an overwhelming loss (for example, to self-esteem) or violation (for example, of values), and they

are less able to identify adaptive coping strategies or support to manage or reduce the significant negative affective states generated (secondary appraisals). Further, their response is to adopt passive or avoidant coping (for example, drug-taking and/or alcohol excess), which serves to further impair their limited problem-solving. This appears to be the most common context for deliberate self-harm.

The reason for poor coping may be due to a lack of existing skills, a transient state of confusion or distress, or a current affective disorder. For example, the affective disorders, including major depression and adjustment disorders, involve coping and cognitive vulnerability, including ineffective problem-solving ability (Aldwin & Revenson 1987; Parle, Jones & Maguire 1996). Similarly, Salkovskis and colleagues (1990) have also described problematic coping in personality disorders, where the poor coping is an enduring characteristic.

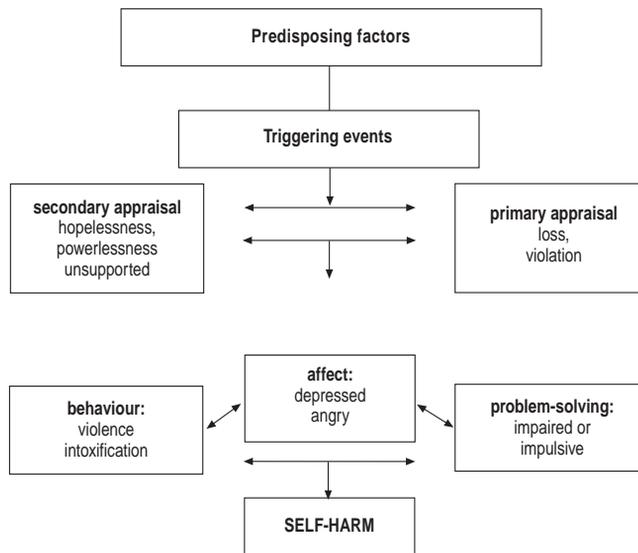


Figure 1: A working model of the contributory factors in a deliberate self-harm attempt

A model for psychological intervention in the emergency department

The emergency department is the major point of contact for deliberate self-harm patients, thus there is an important role for the emergency department as a point of intervention. This, however, requires considering what emergency department staff can be expected to do, what additional activities liaison staff can undertake within the emergency department, and what needs to occur away from the

emergency department. There is a need to strike a balance between priorities in care and available resources, including skill levels of staff, environmental demands and suitability and, importantly, patient preferences. To help guide the development of services for deliberate self-harm patients in the emergency department, a number of priorities of care are suggested in Table 4 and these are discussed below.

Detection and engagement

To ensure the maximum level of detection and engagement, it is necessary that emergency department staff generally possess an adequate level of communication and psychological assessment skills. Appropriate communication skills can be taught in brief inservices or workshops, with ongoing supervision using methods employed in other medical settings (Parle, Maguire & Heaven 1997).

Safety

The physical safety of the patient is a key priority. Similarly, steps are needed within the emergency department to restore and maintain psychological safety. Safety is enhanced by:

- providing a quiet environment where the person can be observed
- staff providing support and monitoring
- ensuring that the patient remains within the emergency department until assessed
- providing adequately trained staff to assess suicide risk
- minimising opportunity for further self-harm.

Psychosocial assessment

All deliberate self-harm patients should undergo a comprehensive psychosocial assessment. Specialist skills are required to conduct such an assessment, a complex task that requires a knowledge base and clinical experience in a number of domains. Considerable clinical sophistication is needed to disentangle the contributions of personality, intoxication, acute poisoning and psychiatric disorder to the mental state examination findings. Using the cognitive behavioural formulation described above, hopelessness, current concerns and coping/problem-solving also need to be assessed.

Table 4: The suggested priorities of care for self-harm patients presenting at emergency departments

1. Detection
That patients who have presented with problems associated with deliberate self-harm are *accurately identified*.
 2. Engagement
That patients who have presented with problems associated with deliberate self-harm are met with an *empathic and supportive response* by staff to promote engagement and prevent loss to follow-up.
 3. Safety
That steps are taken to restore immediate *physical and psychological safety*. This may be prioritised according to actual physical problems as a result of the self-harm; it may involve admission or less intensive support depending upon individual needs and assessment (see 4).
 4. Psychosocial assessment and collaboration
That a thorough *psychosocial assessment* is made with the patient.
That any *mental illness is identified* and appropriately assessed.
That a *collaborative approach* is established to ensure the patient understands the next stages in care, and is motivated to engage before discharge.
 5. Psychological intervention and management
That the patient learns adequate problem-solving skills to develop *alternative strategies* to prevent further episodes of self-harm behaviours in response to distressing events.
That underlying *mental illness and psychological disturbances* are assessed and treated according to best practices.
That underlying *social factors* are attended to within available resources.
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Two factors may help to ensure that deliberate self-harm patients are adequately assessed. Firstly, the development of a standardised ‘deliberate self-harm assessment schedule’ is one way to gather consistent and clinically relevant information, enabling the care for the patient to be planned and facilitating regular evaluation of the service. Given the high prevalence of depressed and overdose patients, the assessment schedule administered at this time needs to be appropriate to a patient’s cognitive ability and tolerance.

Secondly, appropriate staff could be selected and trained to conduct this standardised assessment in settings such as the emergency department. Adequately trained and supported non-psychiatrists may administer the assessment, however, psychiatrist back-up for advice, supervision and formal psychiatric consultation needs to be readily available.

Intervention and management

As is evident in the data described above, deliberate self-harm patients as a group are characterised by a common maladaptive behaviour (deliberate self-harm), but diverse contributory factors (psychiatric disturbance, physical illness, relationship breakdown, and so on). Consequently, a uniform clinical solution for all deliberate self-harm patients is unlikely to be helpful. For example, while those patients with psychiatric disorders are very likely to benefit from psychiatric treatment, skilful crisis intervention (for example, arranging emergency accommodation) for those with predominantly social turmoil may reduce their risk of further self-injury. The cognitive behavioural formulation, however, provides a basis for an immediate, problem-focused and time-limited intervention to manage the specific maladaptive behaviour (to prevent repeat instances of self-harm). As the intervention is based on an individual assessment, it is tailored to the individual patient's circumstances and psychopathology.

To address the common denominator for deliberate self-harm patients in the emergency department, a single *Alternatives to Self-Harm (ASH)* problem-solving session is proposed. Its aim is to ensure that patients are able to demonstrate skills to identify the trigger for their suicide attempt, the feelings that they experienced, and at least one alternative to self-harm should a similar situation occur. Where major deficits in problem-solving abilities are evident, sufficient skills to formulate an alternative need to be taught, if necessary, providing strategies such as an emergency phone number to use (Tehan & Murray 1996). Where ambivalence is high, techniques such as *motivational interviewing* (Miller & Rollnick 1991), already in use in a variety of settings, may be indicated. Take-home educational and summary materials would assist by reinforcing the alternative to self-harm.

This approach follows the example of a more intensive intervention developed by Salkovskis and colleagues (1990) for habitual deliberate self-harm patients with multiple emergency department presentations. The goal of cognitive behavioural therapy in this instance is not to provide an exhaustive treatment for the patient's problems, but to teach *problem-solving techniques* to assist the patient to identify alternatives to self-harm when they are in a similar state of distress.

Beyond the common ASH problem-solving approach, to prevent further attempts, *individualised treatment and management plans are necessary because of the diverse nature of patients' ongoing care needs*. This may involve referral to existing services for drug and alcohol counselling, psychiatric or psychological assessment for depression, relationship or family therapy, and so on. Community-based services such as crisis teams can be involved, depending on assessed need

and negotiation with the patient at discharge. More intensive cognitive and behavioural therapy may also be indicated to manage psychological problems such as depression, and other social, pharmacological and psychiatric techniques may be necessary to address underlying problems.

The timing of the ASH problem-solving approach would, of course, depend on the patient's physical and psychiatric state. For example, patients assessed as seriously medically or psychiatrically ill or in immediate risk of further self-harm would be admitted to either a psychiatric or general medical ward according to need. For patients admitted to the wards, the ASH program would take place when the patient was well enough, before discharge.

For such an approach to be successful, the right combination of treatment and training skills is essential. Previous experience (Salkovskis, Atha & Storer 1990; Tehan & Murray 1996) has demonstrated that the combined skills of a clinical psychologist trained in cognitive behavioural therapy and a psychiatric CNC are appropriate to develop training and supervision for emergency department staff as well as intervention development and implementation. Their further role within a liaison context would be to provide short-term case management and supervision during the referral process. This would include a follow-up review soon after discharge from the emergency department, perhaps by telephone, of the patient's planned alternatives to self-harm.

Discussion

The model of intervention outlined here involves both clinical practice and service organisation. It recognises that all health professionals have a role in assessing patients who have deliberately self-harmed, but that they may need skills training to enhance confidence in this area. By providing a specific intervention at the first point of clinical contact, we would expect to prevent most repeat instances of self-harm. This model also facilitates the further individualised management of the patient presenting with deliberate self-harm.

Such an integrated method of operating and intervening has been effective in our activities in other areas within the general hospital (Ryan, Parle & MacLochlainn, in preparation), and should be well within the capabilities of an adequately staffed and functional multidisciplinary liaison psychiatry team.

There are a number of problems with the clinical audit reported here. Our sample size is rather small, with some gaps, but in most salient characteristics it resembles samples reported in the literature (Hawton & Fagg 1992; Borges & Rosovsky 1996; Beautrais, Joyce & Mulder 1997; McEvedy 1997; Moscicki 1997; Vassilas & Morgan 1997). We have not been able to report on patients

whose deliberate self-harm was fatal and, as they represent the group with the poorest outcome, this is an important gap. What we are proposing, however, is an intervention model for deliberate self-harm patients in the emergency department. Those who die before or soon after presentation, by definition, do not come to attention in time to allow intervention. More significant is the failure to include patients who present out-of-hours and are rapidly discharged from the emergency department. This group is one of the potential targets for the proposed intervention, which may fail if there are systematic differences compared with those patients included in this sample. The fact that this group do not have specialist liaison psychiatry assessment points to the need for deliberate self-harm interventions to be available 24 hours, 365 days of the year. This is achievable if relevant skills are developed in emergency department staff as well as expecting mental health emergency services to fully cover emergency departments. The retrospective nature of this audit of patient records means that there were inevitable gaps in data and, as various persons were involved in data collection, there may be some inconsistencies. The use of standardised diagnostic criteria (for example, for psychiatric diagnoses) modifies this somewhat, but the best solution would be a formal prospective study and the introduction of a standardised deliberate self-harm assessment schedule (see above).

Conclusion

The characteristics of deliberate self-harm patients presenting at an inner city emergency department are diverse. Their common defining factor is the poor problem-solving skills that led to the self-harm. To accommodate the diversity and point of commonality, priorities of care are suggested for managing deliberate self-harm patients in the emergency department, including an ASH problem-solving session combined with individualised management. Providing such a service from within the organisation of the Liaison Psychiatry Unit allows for important structural, philosophical, professional and practical support. With education, skill development and ongoing supervision, this model of service delivery could be transferred to agencies outside the hospital, such as general practice.

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