

Deliberate Self-harm: Bench to Bedside

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ABSTRACT

Deliberate self-harm a non-fatal suicidal behavior is one of the major problems in many developing and developed countries. It is a major concern for clinicians and academicians, in which behavior is multiple and diverse in its presentation and often bewildering, vexing in the powers that drive them. To this day, general clinicians and research experts in the field of mental health have not agreed on which behaviors to include under the rubric of self-injury/deliberate self-harm/attempted suicide or on how to proceed and categorize them into a meaningful group. According to many researchers, deliberate self-harm refers to behavior through which individual deliberately inflict acute harm upon themselves, poison themselves, hang themselves or try to exhibit this behavior with nonfatal outcomes. Initially, these behaviors were often regarded as failed suicides. This view did not appear to be correct as the majority of the patients do not try to kill themselves, and there are substantial differences between communities in the prevalence of attempted suicide because these behaviors are somehow linked to attention-seeking rather resulting in death. All these behaviors share one thing in common that they occur in emotional turmoil, the degree of powerlessness and hopelessness of young people with low education, low income, unemployment, and difficulties in coping with life stress. These acts are often gratifying and cause minor to moderate harm. Some individuals repeatedly harm themselves, while others do it only once or a few times in their lifespan. Here we are trying to explore a few more issues related to deliberate self-harm.

Keywords: Deliberate self-harm, Self-mutilation, Suicide.

Journal of Postgraduate Medicine, Education and Research (2019): 10.5005/jp-journals-10028-1318

INTRODUCTION

This is true that practicing acts of self-harm, and having suicidal thoughts can be an extremely painful experience. Contrary to myths and misconceptions, people who go through self-harm behavior and/or suicidal thinking do not do so in order to seek attention only but because they are experiencing such intense emotional pain, that they feel the only way to handle it is to inflict physical pain to themselves. Indeed it is a very painful experience.

Similarly, most of the people who entertain these thoughts do not want to die. They feel helpless, and find no solution to their problems which they are facing. They think that the only solution to get rid off and find relief is either to escape from the situation or punish them. Being trapped in the situation, they believe that the only way to escape is by putting an end to their life. The current evidence and literature say that self-harm is a common clinical problem, but it is poorly understood. Deliberate self-harm refers to behavior through which people deliberately inflict acute harm upon themselves, poison them (overdose), or try doing so, with the non-fatal outcome.

Some of the most common terms include parasuicide¹ anti-suicide² deliberate self-harm, delicate self-cutting,³ wrist-cutting syndromes and of course the ubiquitous term self-mutilation.^{4,5} However, both terms, DSH and parasuicide, are still somewhat confusing, because in practice they include people who really have the intention of killing themselves but survive after the attempt.

Previously, these behaviors were often regarded as failed suicides. This view did not appear to be correct as the majority of the patients do not try to kill themselves. Therefore the term deliberate self-harm was introduced to describe the behavior without implying any specific motive.⁶ It is frequently encountered in adolescents who have mental health issues. These behaviors are somehow linked to suicide but do not result in, death. All these behaviors share one thing in common and that is they occur in emotional turmoil. The phenomenon of people physically hurting themselves, it is heterogeneous in its nature, disturbing in its impact on the self and on others, frightening in its blatant and evident

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How to cite this article: Kumar K, Kohli A, Dogra R, Sharma S. Deliberate Self-harm: Bench to Bedside. *J Postgrad Med Edu Res* 2019;53(2):79-84.

Source of support: Nil

Conflict of interest: None

maladaptiveness, and often indicative of serious developmental disturbances, breaks with reality, or deficits in the regulation of affects, aggressive impulses, or self states.

DEFINITION

Deliberate Self-harm

Deliberate self-harm is defined as the intentional injuring of one's own body without apparent suicidal intent. Other names for this behavior include superficial-moderated self-mutilation and self-wounding.⁷ This behavior is encountered more frequently in psychiatric hospitals (especially in Borderline Personality disorder, substance abuse, eating disorder) and also in outpatient settings.⁷

Self-harm, also known as self-injury, is defined as the intentional, direct injuring of body tissue, done without suicidal intentions." An act with non-fatal outcome, in which an individual deliberately initiates a non-habitual behaviour that, without intervention from others, will cause self harm, or deliberately ingests a substance in excess of the prescribed or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desired via the actual or expected physical consequences."⁸

Self-harm (SH), also referred to as self-injury (SI), self-inflicted violence (SIV), nonsuicidal self-injury (NSSI) or self-injurious behavior (SIB). All these are different terms to ascribe behaviors where the demonstrable injury is self-inflicted⁹ (Self Injury Awareness, 2007).

CLASSIFICATION

As previously mentioned, there is a considerable variety of behaviors within the broad category of non-fatal suicidal behavior. A review of classification studies¹⁰ revealed three types of suicide attempt(er)s: a ‘mild’ type, a ‘severe’ type, and a ‘mixed’ type in between. Many researchers and clinicians have attempted to categorize self-harm, depending on their definition (self-harm, self-injury, self-mutilation) different dimensions have been used in the classifications.¹¹ The dimensions used are:

- One of the first dimensions used to classify is *the type of action* used in producing self-harm.
- A second dimension is localization on the body.
- The third dimension refers to the frequency during a specific period.
- Next, the degree of tissue damage caused.
- The psychobiological state of the patient at the moment is often used as a classification variable.
- The sixth criterion, the function, is often related to the previous dimension (psychobiological state).

The most important classifications are:

- Self-mutilation is not a new phenomenon. Studies explored this behavior in clinical settings since the 1880s, but often there is a problem within differentiating self-mutilation from other behavioral problems or functional illness.⁷

Menninger, 1935 gave six categories of self-mutilation:¹²

1. Neurotic (nail biting, skin picking, etc.)
2. Religious (ascetic self-flagellation)
3. Puberty rites (hymen removal, clitoral alteration, etc.)
4. Psychotic (eye enucleation, ear removal, etc.)

5. In organic diseases
6. In normal people customary (nail clipping, etc.).

RISK FACTORS AND PROTECTIVE FACTORS

A wide range of risk factors for self-harm has been identified. Less explored but important are the protective factors; these are not simply the inverse of risk factors but are being mentioned side by side. Table 1 shows the psychosocial and clinical factors that differentiate between self harm and suicide.

Demographic Profile

Self-harmers seem to have a different demographic profile than those who commit suicide.

Age

Deliberate self-harm is a significant clinical problem, especially among adolescents. It has been seen that older people are at much lower risk, and when they do self-harm they are much more likely to commit suicide later.¹³ Children and adolescents may display symptoms differently than adults with the same disorder. Especially in the area of mood, adolescents frequently display irritability or acting out behavior rather than feelings of sadness.¹⁴

Sex

Males are more prone to a suicide attempt, but presentations of self-harm to health agencies are generally more common in women. Some evidence shows that the higher rate of self-harm in girls than boys is attributable to other risk factors such as extremely tense/depressed or anxious mood, disordered eating, and romantic involvement.¹³

Marital Status

In a multivariate model, the risk of self-harm was reported to be 11 times higher for separated and divorced people than their counterparts.¹⁵

Table 1: Psychosocial and clinical factor to differentiate between self-harm and suicide

<i>Factors</i>	<i>Suicide/failed suicide</i>	<i>Deliberate self harm</i>
Age	Can be present in all ages	Adolescents (aged 15– 24) and young females are more vulnerable
Gender	Both male and female	More in female
Marital status	–	Higher in divorced and separated Childhood maltreatment, higher in separated/divorced parents
Childhood experiences	–	Higher risk in a homosexual man
Sexual orientation	Heterosexual	–
Illness	Depressive episode	Neurotic spectrum like anxiety
Intentionality	To end life and to relieve from pain	To drain pent-up emotions
Lethality	Can be high to medium	Medium to low
Methods	Significantly harmful like the use of pesticides, shooting, hanging	Less harmful
Frequency	Usually single mode	Usually multiple
Stressful situation	May not be significant	Significant
Past history	Maybe present	Usually present
Presence of suicide/serious attempt in family	Maybe present	Less likely
Presence of personality traits/disorder	Less likely	More likely
Planning	Most of the time planned and prepared for the act	Usually impulsive



Employment Status

Uncertainty remains about how much of the risk of self-harm in the unemployed is explainable in terms of selection. Risks of self-harm may be raised in people or communities with precarious employment situations.¹⁶

Socioeconomic Disadvantage

Low socioeconomic status, a low level of education, low income, and living in poverty are all risk factors for self-harm. Self-harm admission rates are higher in areas of socioeconomic deprivation.¹⁷ Geographic variations in the incidence of deliberate self-harm (DSH) and suicide have been shown to be associated with area-based measures of socioeconomic deprivation and social fragmentation. Reducing socioeconomic deprivation and its associated problems may be an important strategy in the prevention of suicidal behavior, especially in young men.¹⁸

Social and Family Factors

Family characteristics and childhood experiences

The risk is greater for children of separated or divorced parents, families where there was marital discord, or where the mother was very young or poorly educated. Maladaptive parenting and childhood maltreatment/abuse may increase the risk of self-harm, and these variables can lead to severe interpersonal difficulties in adolescence, and resulting in unhealthy relationships. On the contrary, it has been also seen that supportive environment, good communication and involvement with family members are some protective factors.¹⁹⁻²²

Religion

Religious beliefs play an important protective factor to prevent people from attempting suicide.²³ Moral objections were clearly a factor for depressed patients who had not self-harmed, compared with those who had.²⁴ In 2004, Dervic et al. analyzed beliefs and religious affiliations of individuals who had attempted suicide and found that compared with attempters, non-attempters exhibited significantly more reasons for living involving responsibility towards family members, child-related concerns and religious beliefs (moral objections) to suicide, and more often reported a religious affiliation. Findings also show that religious belief protects against risk behavior, including suicide attempts, in physically abused adolescents.²⁵

Sexual Orientation

Men and women with gay, lesbian, or bisexual orientations are more likely to engage in self-harm than heterosexuals.^{26,27} The risk might be greater for homosexual men than for homosexual women. The risk in gay, lesbian, or bisexual youth could not be

attributed to their greater exposure to a wide range of risk factors, including depressed mood, substance abuse, pubertal timing, or atypical sex roles.

Physical Illness

Physical illness is also associated with self-harm, particularly in elderly people. Epilepsy, HIV infection and past head-injury are few of the risk factors which can have causative or precipitator role in self-harm.²⁸

Situational Factors

An adverse life event, especially one involving interpersonal conflict or a relationship breakdown, could trigger self-harm in a vulnerable person.¹⁹

MODELS OF DELIBERATE SELF-HARM

In the current literature, several models have been proposed to outline why individuals engage in deliberate self-harm. These models are not mutually exclusive, and each describes deliberate self-harm as an attempt to cope with intense emotional states (Table 2) Most patients have reported feelings which are extremely tense, anxious, angry or fearful prior to the act of self-harm, and the self-harm behavior is positively reinforced through a feeling of relief, satisfaction and decreased tension.²⁹

Psychodynamic Model

Emerson viewed cutting-behavior as a substitution of masturbation. Later Karl Menninger and Anna Freud present a fascinating concept focusing on the delicate interplay of id, ego, and superego.³⁰ When ego encounters the primary figure or superego, there will be a development of anxiety secondary to guilt due to the transgression of superego associated with aggression. Persons with poorly formed ego boundaries fail to differentiate the self from the environment and utilize the pain of self-directed aggression to reduce their anxiety. Menninger calls this anxiety reduction as “bargaining with the self”.

Psychosocial Model

Psychosocial environment plays a key role directly or indirectly which influences children.³¹ Indirect impact like modeling (faulty) of a family member, who is dealing with distress through substance use or self-injurious behaviors will be observed by a child. This will convey a message—‘painful and worthless in the life where distress can be relieved by injuring oneself. Empirical evidences also favor self-injury to be associated with separation or loss of close persons and/or emotional/physical neglect/abuse.³² Thus direct familial impacts by reinforcing the extreme emotional behavior

Table 2: Model of deliberate self-harm³³

<i>Model</i>	<i>Description</i>
Affect regulation	An attempt to alleviate intense emotional pain that cannot be expressed verbally or through other means
Anti-suicide	An attempt to avoid suicide by channeling destructive impulses into self-harm behavior
Anti dissociation	An attempt to stop feeling numb and to escape the effects of dissociation that results from intense emotions
Interpersonal boundaries	An attempts to affirm one’s boundaries and protect against the loss of identity by creating a distinction between self and others
Interpersonal influence	An attempt to communicate a need for help or to manipulate others to get needs met
Self-punishment	An attempt to relieve feelings of shame, self- hatred or guilt
Sensation seeking	An attempt to generate excitement or stimulation

in 'invalidating environment' punishments by physical abuse and extinction may make to feel that 'pain will negate his responsibilities for others' and ultimately indulge in self-destructive behaviour.

Cognitive Model

This model explains that self-harm can also be a result of self-generated cognitions triggered by internal cues. Those having negative core beliefs of being incompetent, unlovable or having negative body image start believing intermediate attitudes, rules, and assumptions which concur with self-harm. Automatic thoughts intrude suddenly in their mind with self-instructional cues to harm their self which associates with effective responses leading to act of self harm.³¹

Emotional Dysregulation

In DSH hypothesized emotional dysregulation, unwillingness to tolerate negative emotional distress is a core theme. DSH is a multi-dimensional construct rather than merely describing as borderline trait or personality.³⁴

Behavioral Model

DSH is considered to be a negatively reinforced behavior. Chapman explains a broader 'Experiential avoidance behavior' in DSH.³⁵ Experiential avoidance includes any behavior that functions to avoid, or escape from, unwanted internal experiences or those external conditions that elicit them.³⁶ These avoided experiences may include thoughts, feelings, somatic sensations, or other internal experiences that are unbearable or distressing. Avoidant persons go for narrowed thinking, poor planning, and implementation, poor coping skills with high impulsivity which is responsible for DSH.

Course and Prognosis

Repetition is one of the core characteristics of suicidal behavior. Among those who commit suicide, 40% of them have already attempted before.³⁷ Among suicide attempters 'repeaters' are probably commoner than 'first-ers'. Thirty to sixty percent of suicide attempters made previous attempts, and 15–25% did so within the last year.³⁸

ASSESSMENT

A psychosocial assessment is an important area to assess DSH. It is important to first establish a trusting relationship with the patient.

What can we do further?

Assess for self-harm behavior and associated mental health issues:

- History of previous self-harm, psychiatric illness, personality disorder, impulsivity, difficulty in expressing emotions verbally, nonheterosexual orientation, substance abuse, psychosocial problems, social isolation, family history of psychiatric illness or DSH in the family.

Background

- Physical health, past psychiatric history, family and personal history

Social circumstances

- Living circumstances, social support network, coping strategies

Future

Attitude towards being alive after self-harm, attitude to care and to use of helping agencies, Hopelessness, future-oriented thinking, risk of suicide or of repeated self-harm

Information from others

Family, friends, teachers, family practitioner, or counselor

MANAGEMENT

Self-harm is a behavior, not an illness. Thus, management is highly dependent on the underlying problems, which could range from psychosis with intense continuing suicidal urges requiring psychiatric admission, to an impulsive over-reaction to a stressful event that rapidly resolves with family support.

General principles of care following self-harm

- To assess/monitor further thoughts of self-harm
- Search available resources in a crisis
- Come to a shared understanding of the meaning of the behavior and the patient's needs
- Do not compel them to talk if they do not feel comfortable ;
- Attend to substance abuse on priority
- Help the patient to identify and work towards problems solving
- Allow them time to learn alternative self-soothing methods to replace the self-harm behaviors;
- Positive reinforcement for their strengths and resourcefulness;
- Avoid prescribing quantities of medication that could be lethal in overdose
- Assertive follow-up and to maintain an empathic relationship
- Affirm the values of hope and of caring for oneself

PSYCHOTHERAPIES

It is estimated that more than 70% of self-harm incidents are precipitated by some underlying personal issues³⁹ and have a strong association with some psychological trauma. Addressing these issues remains the primary goal of psychological interventions. Different approaches are being used as problem-oriented therapies (problem-solving therapy, cognitive behavioral therapy, and psychodynamic interpersonal therapy); dialectical behavior therapy; inpatient behavioral therapy and insight-oriented therapy; long- and short-term therapy; home-based family therapy; and group therapy. Psychological therapies are often aimed at improving social functioning, as well as reducing self-harming behavior.

Cognitive treatment targets the thoughts, assumptions, rules, attitudes and core beliefs that support self-harm. Thoughts in their myriad forms play a fundamental role in the onset and continuation of self-harm. The cognitive process always precedes the emotion and behaviors associated with cutting, excoriation, self-burning, and self-hitting and so on. Core beliefs like unlovability, incompetence, and negative body image would be evaluated with corroborative empiricism.³¹ Cognition needs to be identified and targeted for a comprehensive and successful treatment.

Dialectical behavior therapy (DBT) is a special adaptation of cognitive behavior therapy, originally used for the treatment of a group of repeatedly parasuicidal female patients with a borderline personality disorder. DBT is a manualized therapy which uses techniques at the level of behavior, cognition, and support with a judicious mixture of ideas derived from Zen Buddhism.^{40,41} The initial aim of DBT is to control self-harm, but its main aim to promote change in the emotional dysregulation that is judged to be at the core of the disorder. This makes the DBT goal far beyond self-harm reduction.³⁵ The modified forms of DBT to reduce the cost of therapy has been reviewed on OPD based interventions. But no significant effect in relation to standard supportive psychotherapies has been noted.^{41,42}

Many studies have been done regarding psychological interventions on individuals having self-harm. One study was done by Wood et al., where group therapy was given to a group of adolescent patients.⁴² It involved a minimum of six 'acute' sessions where patients with self-harm behavior are oriented to six main themes namely, relationships, school problems, and peer relationships, family problems, anger management, depression and self-harm, hopelessness and feelings about the future. An option of weekly 'long-term' sessions is continued until the patient feels 'ready to leave'. Problem-solving and cognitive behavioral approaches were integrated into this therapy. This approach has shown a significant reduction in the likelihood of repetition of self-harm in adolescents with much cost-effectiveness.⁴³

Studies on problem-oriented therapy, dialectical behavior therapy, inpatient behavior therapy, home base family therapy, psychological therapy have also been conducted, the results of which are inconclusive regarding special benefit and cost-effectiveness in comparison to standard aftercare.⁴³

CONCLUSION

The term 'self-harm' covers a spectrum of behavior. The most serious forms of behavior relate closely to suicide, while behaviors at the milder end of the spectrum merge with other reactions to emotional pain. If we better understand the functions served by self-harming behaviors, we might be able to move beyond the simple, although the important, concept of suicidal thoughts progressing to an attempt and then to completed suicide. If crossing the border from thoughts to acts does pave the way for further acts, more effort is needed to foster non-harmful ways of dealing with emotional pain. Human beings are highly responsive to cultural and social norms, and this aspect of the prevention of suicide and self-harm has been neglected. People who are judged to be vulnerable by having several risk factors could be protected by the society they live in or by the beliefs of their culture or religion.

REFERENCES

- Kreitman N, Philip AE, Greer S, et al. Parasuicide. *Br J Psychiatry*.1969; 115:746-747.
- Simpson E, Zlotnick C, Begin A. *Self-Injury Survey*. Providence, RI. 1994
- Pao PN. The syndrome of delicate self-cutting. *Br J Med Psychol* 1969; 42:195-206.
- Graff H, Mallin R. The syndrome of the wrist cutter. *Am J of Psychiatry*, 124, 36-42.
- Rosenthal RJ, Rinzler C, Walsh R. Wrist-cutting syndrome. *Am J Psychiatry*.1972; 128:1363-1368.
- Morgan HG, Barton J, Pottle S, et al. Deliberate Self-Harm: a follow-up study of 279 patients. *Br J Psychiatr* 1976;128: 361-368.
- Favazza AR. Introduction. In strong M (ed.) *A Bright Red Scream*. New York: Penguin;16-17.
- Platt S, Bille-Brahe U, Kerkhof A, et al. Parasuicide in Europe: the WHO/EURO Multicentre Study on Parasuicide. I. Introduction and preliminary analysis for 1989. *Acta Psychiatr Scand* 1992;85:97-104.
- Self Injury Awareness Book, S. I.: *First Signs*, 2007, ISBN 0-9555506-0-2, archived from the original on 2008-09-23, retrieved 2008-05-26.
- Arensman E, Kerkhof AJFM. Classification of attempted suicide: a review of empirical studies 1963-1993. *Suicide and Life-Threat. Behav* 1996;26:46-67.
- Claes L, Vandereycken W. Self-injurious behaviour: differential diagnosis and functional differentiation. *Compr Psychiatry* 2007; 48:137-144.
- Menninger KA. A psychoanalytic study of the significance of self-mutilations. *Psychoanalytic Quarterly*.1935; 4:408-466.
- Schmidtke A, Bille-Brahe U, DeLeo D. Attempted suicide in Europe: rates, trends and sociodemographic characteristics of suicide attempters during the period 1989-1992. Results of the WHO/EURO Multicentre Study on Parasuicide. *Acta Psychiatr Scand* 1992;93: 327-338.
- Sourander A, Aromaa M, Pihlaskoski L, et al. Early predictors of deliberate self-harm among adolescents. A prospective follow-up study from age 3 to age 15. *J Affect Disord* 1996; 93:87-96.
- Petronis KR, Samuels JF, Moscicki EK, et al. An epidemiologic investigation of potential risk factors for suicide attempts. *Soc Psychiatry Psychiatr Epidemiol* 1990;25:193-199.
- Platt S, Hawton K. Suicidal behaviour and the labour market. In K Hawton and K Heeringen. *International Handbook of suicide and attempted suicide* (eds). Chichester: John Wiley & Sons. 2000.
- Gratz KL. Measurement of deliberate self-harm: preliminary data on the Deliberate Self-Harm Inventory. *J of Psychopathol Behav Assess* 2001;23:253-263.
- Hawton K, Fagg J. Repetition of attempted suicide: the performance of the Edinburgh predictive scales in patients in Oxford. *Arch Suicide Res* 1995;1:261-272.
- Beautrais, AL. Risk factors for suicide and attempted suicide among young people. *Aust N Z J Psychiatry* 2000;34:420-436.
- Mittendorfer-Rutz E, Rasmussen F, Wasserman D. Restricted fetal growth and adverse maternal psychosocial and socioeconomic conditions as risk factors for the suicidal behaviour of offspring: a cohort study. *Lancet* 2004;364:1135-1140
- Moscicki EK. Identification of suicide risk factors using epidemiologic studies. *Psychiatr Clin North Am* 1997;20:499-517.
- Magne-Ingvar U, Ojehagen A, Traskman-Bendz L. The social network of people who attempt suicide. *Acta Psychiatrica Scandinavia* 1992; 86:153-158.
- Eagles JM, Carson DP, Begg A, et al. Suicide prevention: a study of patients' views. *Br J of Psychiatry* 2003;182:261-265.
- Malone KM, Oquendo MA, Haas GL, et al. Protective factors against suicidal acts in major depression: reasons for living. *Am J of Psychiatry* 2000;157:1084-1088.
- Dervic K, Oquendo MA, Grunebaum MF, et al. Religious affiliation and suicide attempt. *Am J Psychiatry* 2004; 161:2303-2308.
- Skegg, K, Nada-Raja S, Dickson N, et al. Sexual orientation and self-harm in men and women. *Am J Psychiatry* 2003;160:541-546.
- Jorm AF, Korten AE, Rodgers B, et al. Sexual orientation and mental health: results from a community survey of young and middle-aged adults. *Br J Psychiatry* 2002;180:423-427.
- De Leo D, Scocco P, Marietta P. Physical illness and parasuicide: evidence from the European Parasuicide Study Interview Schedule (EPSIS/WHO-EURO). *Int J of Psychiatry Med* 1999;29: 149-163.
- Klonsky ED. The functions of deliberate self injury: a review of the evidence. *Clin Psychol Rev*.2007;27:226-239.
- Romanczyk RG, Lockshin S, Connor JO. Psychophysiology and issues of anxiety and arousal. In: *Self-injurious behaviour: Analysis, assessment, and treatment*. 1992.
- Walsh BW. *Treating Self-Injury: A Practical Guide*. 2006;3-70. New York: The division of Guilford press
- Paul JP, Catania J, Pollack L, et al. Suicide attempts among gay and bisexual men: Lifetime prevalence and antecedents. *Am J Public Health* 2002;92:1338-1345
- Michelle L. Deliberate self-harm in adolescents. *Singapore Med J* 2015;56(6):306-309.
- Linehan MM. *Skills training manual for treating borderline personality disorder*. 1993 New York: Guilford Press.
- Chapman AL, Gratz KL, Brown MZ. Solving the puzzle of deliberate self-harm: The experiential avoidance model. *Behav Res Ther* 2006; 44(3):371-394.
- Hayes SC, Wilson KG, Gifford EV, et al. Experiential avoidance and behavioural disorders: A functional dimensional approach to diagnosis and treatment. *J Consult Clin Psychol* 1996;64: 1152-1168.
- Maris RW. The relationship of nonfatal suicide attempts to completed suicide. *Assessment and Prediction of suicide*.1992. Guilford Press, New York. 362-380.

38. Kreitman N, Casey P. Repetition of parasuicide: an epidemiological and clinical study. *Br J Psychiatr* 1988;153:792-800.
39. Bancroft J, Skrimshire A, Casson, J. People who deliberately poison or injure themselves: their problems and their contacts with helping agencies. *Psychol Med* 1977;77:289-303.
40. Bateman AW, Fonagy P. Psychotherapy for personality disorders. In: *The Oxford text book of psychiatry*. Gelder MG, Andreason NC, Lopez-Irisbor Jr JJ, et al. Vol 1, 893-899. New York: Oxford University Press.
41. Bohus M, Limberger M, Ebner U, et al. Pain perception during self-reported distress and calmness in patients with borderline personality disorder and self-mutilating behaviour. *Psychiatry Res* 2000;95:251-260.
42. Wood, A, Trainor G, Rothwell J, et al. Randomized trial of group therapy for repeated deliberate self-harm in adolescents. *J Am Academy of Child and Adoles Psychiatry* 2001;40(11): 1246-1253.
43. National Institute for Clinical Excellence (NICE). *Self-harm: The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care*. London: National Institute of Clinical Excellence. 2004.