

# Deliberate self-harm in children and adolescents: an 11-year case note study

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## Abstract

**Objective:** To retrospectively examine the case-notes of all children and adolescents admitted with deliberate self-harm (DSH) or suicidal ideation during the study period 1993-2003. The study aimed to identify underlying reasons why children and adolescents engage in DSH, and to identify common psychiatric, psychosocial and familial factors which may predispose or contribute to an individual's engagement in such behaviour.

**Method:** All children presenting to the hospital with DSH or suicidal ideation were identified and data collected from their case notes. A study specific questionnaire was designed to collect demographic details, details on clinical presentation, past attempts, comorbid psychiatry disorders, family history and family circumstances. Information was also recorded on hospital stay and discharge planning.

**Results:** During the 11-year period, 231 children presented with suicidal ideation or behaviour. The mean age was 12.85 with an age range from 6-17 years, with a female:male ratio of 2.5:1. Overdose was the most common method (81.2%) and paracetamol most commonly the drug of choice. More than half of the group (55.7%) expressed a wish to die. More than half (51.8%) had expressed suicidal ideation in the past, 31% had made a previous attempt, and 11.7% had been previously admitted. Of the children 8% presented with suicidal behaviour more than once over the study period. There was a family history of completed suicide in 6.6%.

**Conclusion:** Deliberate self-harm in young people is a significant public health problem in Ireland. During the period of this study, rates have continued to increase. There is an urgent need for national bodies such as the National Suicide Review Group to extend their focus to include those under age 18 and for services to be developed that might reduce DSH behaviours. More research is needed in the area of childhood suicidal behaviour.

**Key words:** Deliberate self-harm (DSH); Suicidal ideation.

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## Introduction

Youth suicide in Ireland is currently the fifth highest in the European Union<sup>1</sup> at 15.7 per 100,000 for the 15-24-year-old age category, and is the leading single cause of death in this group. The overall suicide rate in Ireland doubled between 1980 and 1990, with males outnumbering women by a ratio of 4.5:1.<sup>2</sup> Alarming, the rate of completed suicide in young women (15-24 years) has again doubled since the 1990s, albeit from a low base rate.<sup>3</sup> Today in Ireland, more people die by suicide than are killed in road traffic accidents. Fortunately in Ireland, completed suicide in childhood and the early teenage years is rare – during the period between 1982 and 1991, 13 children aged 5-14 years completed suicide in Ireland; the following decade saw a rise in deaths, with 38 completed suicides within this age group.<sup>4</sup>

## Deliberate self-harm

The term deliberate self-harm (DSH) has been increasingly adopted to describe non-fatal acts of self-harm, regardless of the intention. The National Registry of Deliberate Self-Harm (2009) reported that 11,966 individuals presented to Irish hospitals with DSH, an increase of 5% to the previous year; the rate of DSH is greater for females (222 per 100,000) than males (197 per 100,000). The incidence of DSH in 15-19-year-old females was extremely high, with rates of 635 per 100,000.<sup>5</sup> Of concern, this recent data shows an alarming increase of 12% and 21% for rates of DSH in males aged 15-19 and 20-24 respectively.

In recent years there have been a number of well-designed studies examining the epidemiology of DSH by 'minors'.<sup>6-9</sup> Community-based studies typically suggest far higher DSH prevalence rates than hospital-based studies. In both instances, females outnumber males, however in community surveys self-cutting is more common, whereas self-poisoning is the most common method presenting to hospitals. For example, Madge et al<sup>6</sup> collected anonymous self-reports of DSH from over 30,000 under-16 students in seven European countries including Ireland<sup>20</sup> – she reported that in the 'last year', self-cutting alone (55.9%) was more common than overdose alone (22.3%) and as in other studies,<sup>9</sup> only a minority (12.4%) of recent self-harm episodes presented to hospital.

Hawton and colleagues surveyed all children under-16 years of age presenting with DSH to a general hospital in Oxford between 1976-1993.<sup>7</sup> The majority were female (85%), and had taken an overdose, typically with paracetamol (55% of episodes). Only a minority of these individuals had received any psychiatric treatment prior to the act of DSH. Relationship difficulties with parents were seen as the strongest stressors, followed by difficulties with friends, school and social isolation. Of those who admitted to engaging in acts of DSH, the majority had not sought medical attention.

Similarly, Nakamura and colleagues found that overdoses accounted for between 80-85% of adolescent suicide attempts.<sup>10</sup> Likewise, in another Irish retrospective descriptive study of children under-16 presenting to another paediatric emergency department (2002-2006), Morgan et al reported on 253 DSH cases; more than half (56%) were female and overdose was the most common method (62%) followed by self-cutting (16%). One third of presentations involved thoughts of self-harm alone.<sup>11</sup>

Thoughts of self-harm are even more prevalent, with rates of 29-44% reported in Irish adolescents when assessed by questionnaire or interview.<sup>12</sup> The predictive value of suicidal ideation in relation to DSH, subsequent attempts, multiple repetitions and completed suicides, make the study of this variable pertinent. The significant increase in completed rates of suicide amongst young children over the years, and the unwelcome position that Ireland has in terms of the prevalence rates of completed suicide in our young men, make the study of suicidal ideation, suicidal attempts and completed suicide a national health concern.

## Method

The aim of this study was to examine the characteristics of children and adolescents who presented with DSH to a national paediatric hospital in Ireland over an 11-year period (1993-2003), and to examine their course in hospital. Ethics approval to complete the study was sought and granted from the hospital.

The study was a retrospective case-note study of all children and adolescents who presented with DSH, from 1993-2003, to Ireland's largest national paediatric teaching hospital (243 beds), which also has a catchment area covering the greater Dublin area. During the study period, average yearly emergency department attendances were 31,185. It was standard practice in the emergency department to assess, admit and then refer all cases involving self-harm, from suicidal ideation to actual injury, to the department of child psychiatry. Risk factors known to be associated with DSH<sup>8,13-17</sup> were collected from the clinical case-notes

## Results

### Demographic information

In total, 231 children with DSH and/or suicidal ideation (SI) presented to the hospital emergency department during this period, but 34 charts were missing from the archives. The study results included only the 197 individuals for whom charts were available, 146 female (74.1%) and 51 males (25.9%). The mean age was 12.85 with an age range of 6-17.

The majority of children lived with both parents and attended secondary school. Nine (4.6%) were not attending any school. Nine children (4.6%) were in the care of social services and a further 16 (8.1%) had social worker (SW) involvement. In all, 183 (82.9%) of the sample had actually engaged in an attempt of DSH and 14 (7.1%) presented because of suicidal ideation alone. A stressful life-event occurred within a few hours in 176 children (89.3%) and for the majority (165) this acted as a significant precipitant to their DSH. Ninety-five (48.2%) described conflict with their parents or other family member, 21 (10.7%) at school and 17 (8.6%) with their peers.

Table 1: Demographic details

	(n = 197)
<b>Age:</b>	
Mean age	12.85 (range 6-16)
≤ 10	11 (5.6%)
≥ 13	130 (65.9%)
<b>Female</b>	146 (74.1%)
<b>Living with both parents</b>	120 (60.9%)
<b>In care or SW involvement</b>	25 (12.7%)
<b>Suicidal Ideation only</b>	14 (7.1%)

### Information on DSH group (n = 183)

#### DSH attempt

Significantly more females (76%) presented with DSH than males ( $\chi^2 = 4.567$ ;  $df = 1$ ,  $p < 0.05$ ). In this group, 160 (81.2%) had ingested tablets (most commonly paracetamol) or substances, 16 (8.1%) had used violent methods such as hanging or jumping from a height and seven (3.6%) had cut themselves. Antidepressants (9.1%), benzodiazepines (8.1%), and antacids and analgesics (12.2%) were also used. Most children (154, 78.2%) made the DSH attempt when at home but 18 (9.1%) engaged in DSH in a public place. The majority (152, 77.2%) were alone at the time but spontaneously (110, 60.1%) revealed the DSH to another person. More than half of the children (102, 55.7%) who had engaged in DSH expressed a wish to die. Males were more likely to engage in violent methods, ( $\chi^2 = 11.877$ ,  $df = 2$ ,  $p < 0.05$ ).

#### Past suicidal ideation or DSH

Of those presenting with DSH, nearly half, (91, 49.7%), had previously experienced suicidal ideation and 53 (29%) had previously harmed themselves, 12 (8.5%) on more than three occasions. A total of 23 patients (11.2%) had previously been admitted to hospital with DSH and thirty-six (18.3%) had previous contact with CAMHS.

### Psychopathology

The predominant mood at the time of the attempt was recorded. This was a clinical judgment made by the assessing consultant child and adolescent psychiatrist and recorded in the case-notes. In 98 cases (53.6%), feeling low in mood was seen as the predominant mood at the time of DSH, with anger being present in 58 (31.7%). A total of 16 children (8.7%) had consumed alcohol on the day of admission; 75% of these were identified as being intoxicated and seven (3.8%) were under the influence of other drugs. One-in-10 (10.9%) had a previous history of substance abuse: cannabis (14, 70%), inhalants (6, 30%), LSD (3, 15%) and ecstasy (3, 15%).

#### Life stressors

In the DSH group, 164 (89.6%) had experienced a stressful life event prior to their presentation, 54 cases (29.5%) within one to two hours of engaging in DSH. In 74 cases (40.4%) this life stress was recorded as experiencing conflict with a parent, a family member or school. In 147 (80.3%) of cases, the DSH was viewed either by clinician or subjectively

described by patient as being an impulsive act; four children (2%) left a suicide note. Almost three-quarters of the DSH cases (132, 72.5%) indicated that they had academic concerns such as requiring extra help or stressful exam pressure. Compared to six children (42.9%) with SI alone (see Table 2), in this DSH group, 21 (11.5%) children had a history of child sexual abuse (CSA); 19 (16 girls/3 boys) of these were associated with a wish to die.

**Family psychiatric history**

A total of 27 (14.8%) had a family history of DSH, and 12 (6.6%) had a history of completed suicide in a family member. Depression (49, 26.8%) and alcoholism (34, 18.6%) were frequently present.

**Presentation with suicidal ideation (SI) alone**

A total of 14 children presented with suicidal ideation, seven boys and seven girls. The mean age was 13.8 years (range 12-16). Six (42.9%) children with SI had a history (CSA). Eight children (57.1%) had made a previous suicide attempt. The predominant mood at the time of admission was judged to be depressed in ten cases (71.4%), one child also being intoxicated. A reported family history of DSH (3, 21.4%) and depression (5, 35.7%) was common.

**Hospital course for DSH and SI**

In total, 193 cases (98%) were offered and 187 (94.9%) accepted a child psychiatry assessment. Standard hospital practice offers a social work consultation to all families where a child presents with DSH and this occurred in 133 (67.5%) cases. The average duration of hospital stay for the individuals with DSH was 4.62 days (range 1-23). A total of 11 (6%) children required 1:1 special nursing care and five (2.7%) had to be treated in ICU due to medical complications. The average duration of hospital stay for individuals who had 'suicidal ideation' only was longer, 7.62 days (1-24 days) and almost half (6, 42.9%) were put on 24-hour supervision. Whilst the majority of children were successfully cared for in a paediatric ward setting, almost one-fifth of the group was rated as being 'difficult to manage safely'. Of these, 18 (9.1%) absconded, six (3%) engaged in further deliberate self-harm while on the ward, two (1%) took alcohol while an inpatient, 17 (8.6%) were non-compliant with treatment recommendations and 13 (6.6%) were reported to have behaved in an agitated/aggressive manner with staff or fellow patients. In 10 (5.1%) of the cases the patient was discharged against medical advice.

**Discharge plans**

The majority of children were referred on to CAMHS services (60.9%). Ten children (5.1%) were prescribed an anti-depressant while in hospital and two (1%) an anti-psychotic. Some were discharged home with one to two follow up appointments offered by the liaison child psychiatry team (24.9%). A total of 33 cases (16.8%) were referred to community care for their involvement in addressing child-care protection issues and three children who disclosed recent child sexual abuse (CSA) were referred on to specialist CSA services.

**Comparing children with DSH to those with suicidal ideation alone (SI)**

More children with SI had a history of sexual abuse ( $\chi^2 =$

**Table 2: Summary of characteristics of children presenting with DSH or SI**

Characteristics of children	DSH group n = 183 (%)	SI group n = 14 (%)	Comparison DSH v SI
Female	139 (76%)	7 (50%)	$\chi^2 = 4.567$ , df = 1, p < 0.05
< 13 years or younger	124 (67.8%)	-	
Had ingested tablets	160 (81.2%)	N/A	
Revealed the DSH to another person	110 (60.1%)	N/A	
Predominant mood at time of DSH or SI - depressed	98 (53.6%)	10 (71.4%)	
Predominant mood upon admission	58 (31.7%)	3 (21.4%)	
Stress precipitating presentation	153 (83.6%)	12 (85.7%)	
Previous experienced suicide ideation	91 (49.7%)	11 (78.6%)	
Previously engaged in DSH	53 (29%)	8 (57.1%)	$\chi^2 = 6.260$ , df = 2, p < 0.05
Previously admitted for DSH	20 (10.9%)	3 (21.4%)	
History of CSA	21 (11.5%)	6 (42.9%)	$\chi^2 = 6.031$ , df = 1, p < 0.05
Alcohol intoxication on admission	12 (6.6%)	1 (7.1%)	
Previous substance misuse	20 (10.9%)	0	
Family history of psychiatric illness	82 (44.8%)	5 (35.7%)	
Family psychiatric history of depression	49 (26.8%)	5 (35.7%)	
Family history of completed Suicide	12 (6.6%)	0	
Refused a psychiatric assessment	8 (4.4%)	0	
Referred to CAMHS upon discharge	166 (91%)	14 (100%)	
One to one special nursing	11 (6%)	6 (42.9%)	
Difficulties being managed on ward	29 (15.8%)	6 (42.9%)	
Absconded from the hospital	13 (7.1%)	5 (35.7%)	

6.031; df = 1, p < 0.05) and past DSH ( $\chi^2 = 6.260$ ; df = 2, p < 0.05). Inspection of the standard residuals revealed that 42.9% of those with suicidal ideation had a history of CSA compared to 11.5% with suicidal behaviour (DSH), and 57.1% of the ideators had a history of DSH compared to 29% of DSH.

**Gender analysis**

Overall, boys were more likely to have a family history of alcohol abuse ( $\chi^2 = 11.107$ ; df = 2, p = 0.004) and previous contact with child psychiatry services ( $\chi^2 = 7.776$ ; df = 1, p = 0.005), whilst girls were more likely to have a family psychiatric history ( $\chi^2 = 6.337$ , df = 2, p = 0.042).

Boys were also more likely to choose a violent method ( $\chi^2 = 11.877$ ;  $df = 2$ ,  $p < 0.05$ ). There was no significant relationship between gender and a 'wish to die' ( $\chi^2 = 6.163$ ;  $df = 3$ ,  $p > 0.05$ ), past DSH ( $\chi^2 = 2.224$ ,  $df = 2$ ,  $p > 0.05$ ) or history of abuse ( $\chi^2 = 0.991$ ;  $df = 1$ ,  $p > 0.05$ ).

### Discussion

The results indicate that females aged between 10-13 years are most likely to present with DSH. In this study similar to other international hospital-based studies,<sup>10</sup> most presented with overdoses (81.2%), most often with paracetamol. In line with the current literature on DSH, more females presented with DSH than males.<sup>16</sup> While it appears that males do not engage in DSH as frequently as females, recent international<sup>7</sup> and Irish data<sup>5</sup> reports an increase in male self-injurious behaviour with their presentations being viewed as potentially more serious.<sup>18</sup>

Despite a third of the group having a past history of DSH, only 11.7% had previously attended a paediatric hospital, and 12.2% subsequent child psychiatry care, which suggests that individuals engaging in DSH often don't present to the appropriate mental health services. This is in keeping with what is known in the literature about those presenting representing only the tip of the iceberg. In a large study of English school aged children, Fortune et al<sup>19</sup> found only 12.6% of DSH cases had presented to hospital.

The 'Lifestyles and Coping Survey',<sup>20</sup> part of the 'CASE' study by Madge et al, suggests a similar discrepancy between actual DSH and presentation to hospital – of the 3,817 15-17-year-olds surveyed, 9.1% had engaged in DSH (lifetime) but only 11% of these self-harmers had attended hospital; a friend was the most common source of help sought, both before (38.2%) and after (40.3%) DSH; girls were three times more likely to harm themselves than boys (13.9% v 4.4%). The results of these studies are a concern as both groups of children are actively thinking about suicide, are frequently engaging in DSH, and often depressed (53.6%), but they are not coming to the direct attention of child and adolescent mental health services.

Alcohol abuse is a recognised risk factor for DSH and suicide in adults. When present, it increases the risk eight-fold.<sup>15</sup> In 2004, the 'National Registry of Deliberate Self Harm' reported that 47.4% of men and 39.1% of women with DSH had used alcohol and 19.8% of young people who self harmed were under the influence of alcohol at the time.<sup>21</sup> Despite their young age, 10.9% of this sample had a history of substance use, and a significant minority (8.7%) had used alcohol on the day of presentation.

Alcohol consumption has frequently been linked to impulsivity and it is of note that the clinicians in this study rated 80.3% of presentations as being impulsive. Heavy alcohol consumption continues to pose a serious risk to Irish youths,<sup>22,23</sup> being among the highest alcohol abusers in Europe, and national policies aimed at tackling this are urgently required.

Other risk factors identified both in this study and in others include a recent stressful life event such as an emotionally charged or explosive confrontation with a parent, which have previously been recognised and postulated to act as one of the proximal factors increasing risk.<sup>24</sup> A family history of DSH was present in 14.8%, and 6.6% had a history of completed suicide by a family member. Other studies show high rates

of DSH in family members, suggesting possibly both genetic and environmental risk factors. The Irish 'Lifestyles and Coping Survey' revealed that teenagers who engaged in DSH were nine times more likely to have a family member with DSH.<sup>20</sup>

In the total group, 36 (18.4%) had a history of abuse, most commonly CSA. Regarding CSA specifically, of the total group 13.8% (27) had been sexually abused, with more girls (22, 15.2%) than boys (5, 9.8%) the subject of CSA however gender was not significant. General community studies have also reported high rates of CSA. In a study by Baker and Duncan of a random sample of 2,000 British men and women, 12% of women and nearly 9% of men had a history of CSA before the age of 16.<sup>25</sup> In a systematic review of international literature, Evans and colleagues found that adolescents who had been physically or sexually abused were significantly more likely to experience either suicidal ideation or DSH than other adolescents.<sup>13</sup> In fact, Bruffaerts et al propose that CSA (and physical abuse) is the most likely childhood adverse risk factor associated with suicidal behavior,<sup>26</sup> whereas a history of CSA is not as closely linked to self harming behaviours in the absence of suicidal ideation.<sup>27</sup>

These findings concur with those of our study as there was a strong link with CSA and suicidal ideation – 42.9% of those with SI alone had a history of CSA and in the DSH group, the prevalence of CSA was significantly higher in those with DSH linked to suicidal ideation than those with self harming behaviour but without suicidal ideation. Children who have experienced CSA are a particularly vulnerable group and should be the focus of suicide prevention programmes.<sup>28</sup>

A total of 14 children presented and were admitted with suicidal ideation alone, without any DSH. Compared to the DSH group, these children appeared to present as more 'at risk', with higher psychopathology, relatively more males, a higher past history of both suicidal ideation and past DSH and a higher prevalence of CSA. As past DSH attempts and male gender are two of the most discriminating factors in predicting completed suicide, perhaps these factors, in the presence of current suicidal ideation, led to an immediate admission for ongoing assessment. It is also of note that this 'SI' group was also more difficult to safely manage in a paediatric setting, with almost half requiring 1:1 special nursing and more than third absconding.

Looking at the same data as this current study,<sup>29</sup> we have previously reported that children who self-harmed were much more likely to present to hospital outside normal working hours (84%) and those that did so had increased risk factors. These findings highlighted the need for on-call child psychiatry services in order to ensure that these children receive a timely psychosocial assessment as recommended by the Royal College of Psychiatrists and NICE guidelines.

### Non-suicidal self-injury (NSSI)

Almost half (44.3%) the DSH group did not report suicidal ideation and as noted above, there were only two cases (both girls) with a history of CSA. Evidence suggests that NSSI serves to regulate affect and to alleviate high-arousal negative affect states.<sup>27</sup> Nock proposes that NSSI behaviour represents a high intensity social signal used when less intense communication strategies such as crying or shouting fail.<sup>30</sup> Whilst seen as a lesser risk group, efforts need to be

made to identify this sub-group, often associated with a variety of psychiatric disorders,<sup>31</sup> with the aim of treatment being to develop alternative coping strategies and improved affect regulation (eg. Dialectical Behavioural Therapy and relaxation training).

### Limitations to the study

There were several methodological weaknesses in this study including its retrospective nature, lack of information on outcomes, missing charts and reliance on clinical judgment alone rather than operationalised criteria.

### Conclusion

It is accepted that Ireland has undergone significant and rapid changes over the last 10-15 years, increasing stress on young people while at the same time reducing traditional environmental and social supports. The current downturn in the economic climate has added significantly to the stress on family units – as noted in the most recent NSRF annual report on DSH (2009), “the major increase in deliberate self-harm among Irish men since 2007, in particular among young men, is likely to be related to mental health and socio-economic problems associated with the recession in Ireland”.<sup>5</sup> In addition, alcohol use/misuse continues to increase, being an independent risk factor for DSH and suicide.

While the factors leading to suicidal behaviour in youth have increased, the services available in many parts of Ireland are inadequate and outdated.

Multi-year, multi-component strategies addressing prevention, intervention and postvention have been recommended.<sup>32</sup> Innovative research projects have gradually developed in Ireland in the past decade, including the National Parasuicide Registry and INSURE (The Ireland North-South Urban Rural Epidemiological Study of Suicidal Behaviour in Major Psychiatric Disorders) and are to be welcomed. Currently a large randomised trial is underway, involving 11,000 adolescents in 11 European countries including Ireland.<sup>33</sup> This study seeks to examine the efficacy, cost-effectiveness and cultural adaptability of three school-based suicide-prevention strategies – gatekeeper training, awareness-raising training for pupils encouraging self-referral and professional screening and compare these to a control group involving self-referral only. This study will hopefully provide guidance for effective school based programmes as part of a broadly enacted programme to reduce DSH.

In Ireland, developing services, particularly for the 16-18 year old group, educating the public and particularly primary healthcare workers to identify depression, reducing alcohol excess, and promoting positive mental health in adolescents is of vital importance. Improving the delivery and accessibility of services for young people is necessary if we are to make any impact on suicide prevention, as set out by our National Task force on Suicide<sup>32</sup> and subsequently in the National Strategy for Action on Suicide Prevention.<sup>3</sup>

As a history of DSH is a major risk factor for completed suicide,<sup>14</sup> managing DSH is an important part of any strategy to reduce suicide. Youth friendly services in Ireland like ‘Head-Strong’ may help with engagement and identification of those youths who are at risk of DSH or who are actually self-harming. School-based programmes, the Internet and other technologies also provide a means for young people

to access reliable health information and assistance. Once identified, these children and adolescents could be offered suitable adapted treatments as suggested in the recent Cochrane review.<sup>34</sup>

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### References

1. World Health Organisation. World Health report 2001 mental health: New understanding, new hope. Geneva: World Health Reporting, 2001.
2. Corcoran P, Keeley HS, O’Sullivan M, Perry IJ. The incidence and repetition of attempted suicide in Ireland. *Eur J Public Health* 2004; 14: 19-23.
3. Reach Out. National Strategy for Action on Suicide Prevention. Department of Health and Children, 2005.
4. Central Statistics Office. Central Statistics Office, Skehard Road, Cork, Ireland.
5. National Suicide Research Foundation. National Registry of Deliberate Self Harm, Ireland. Annual Report, 2009.
6. Madge N, Hewitt A et al. Deliberate Self-harm within an international community sample of young people: comparative findings from the Child and Adolescent Self-harm in Europe (CASE) Study. *J Child Psychol Psych* 2008; 49(6): 667-77.
7. Hawton K, Fagg J, Simkin S. Deliberate self-poisoning and self-injury in children and adolescents under 16 years of age in Oxford, 1976-1993. *Br J Psychiatry* 1996; 169: 202-208.
8. Hawton K, Harriss L. Deliberate self-harm by under-15-year-olds: characteristics, trends and outcome. *J Child Psychol Psych* 2008; 49(4): 441-448.
9. Hawton K, Rodham K, Evans C, Weatherall R. Deliberate self-harm survey in schools in England. *BMJ* 2002; 325: 1207-1211.
10. Nakamura JW, McLeod CR, McDermott JF. Temporal variation in adolescent suicide attempts. *Suicide Life Threat Behav* 1994; 24(4): 343-9.
11. Morgan S, Byrne S, Boylan C, McLearnie S, Fitzpatrick C. Deliberate self-harm in young people: attendance at a paediatric emergency department. *Ir Psych Med* 2009; 26(3): 114-118.
12. O’Sullivan M, Fitzgerald M. Suicidal ideation and acts of self-harm among Dublin school children. *J Adolesc* 1998; 21(4): 427-33.
13. Evans E, Hawton K, Rodham K. Suicidal phenomena and abuse in adolescents: a review of epidemiological studies. *Child Abuse and Neglect* 2005; 29: 45-58.
14. Brent et al. Psychiatric risk factors for adolescent suicide: a case-control study. *J Am Acad Child Psych* 1993; 32(3): 521-29.
15. Foster T, Gillespie K, McLelland R, Patterson C. Risk factors for suicide independent of DSM-III-R Axis 1 disorder. Case control psychological autopsy study of Northern Ireland. *Br J Psychiatry* 1999; 175: 175-179.
16. Hawton K. Sex and suicide: Gender differences in suicidal behaviours. *Br J Psychiatry* 2000; 177: 484-485.
17. Lewinsohn PM, Rohde P, Seeley JR. Major depressive disorder in older adolescents: Prevalence, risk factors and clinical implications. *Clin Psychol Rev* 1998; 18(7): 765-94.
18. Hawton K, Arensman E, Wasserman D. The relationship between attempted suicide and suicide rates among young people in Europe. *J Epidemiol Comm Health* 1998; 52: 191-194.
19. Fortune S, Hawton K. Deliberate self-harm in children and adolescents: a research update. *Curr Op Psychiatry* 2005; 18: 401-406.
20. Sullivan E, Arensman E, Keeley HS, Corcoran P, Perry IJ. Young People’s Mental Health: A report of the results from the Lifestyle and Coping Survey. The National Suicide Research Foundation, 2004.
21. National Parasuicide Registry Annual Report 2003. National Suicide Research Foundation, 2004.
22. Hibell et al. Alcohol and other Drug use Among Students in 35 European Countries. The ESPAD Report, 2003.
23. Hibell et al. Substance use Among Students in 35 European Countries. The ESPAD Report, 2007.
24. Hawton K, Fagg J, Simkin S et al. Deliberate Self Harm in adolescents in Oxford. *J Adoles* 2000; 23(1): 47-55.
25. Baker AW, Duncan SP. Child sexual abuse: a study of prevalence in Great Britain. *Child Abuse and Neglect* 1985; 9: 457-67.
26. Bruffaerts R, Demyttenaere K et al. Childhood adversities as risk factors for onset and persistence of suicidal behaviour. *Br J Psych* 2010; 197: 20-27.
27. Klonsky ED. The Functions of self-injury in young adults who cut themselves: clarifying the evidence of affect regulation. *Psychiatry Res* 2009; 166(2-3): 260-268.
28. Bergen H, Hawton K. Variations in time of hospital presentation for deliberate self-harm and their implications for clinical services. *J Affect Disord* 2007 Mar; 98(3): 227-37.
29. McNicholas F, O’Sullivan M, Lennon Ruth, Doherty M, Adamson N. Deliberate self-harm (DSH) out of hour’s presentations. *Ir J Psychol Med* 2010; 27(1).
30. Nock MK. Actions speak louder than words: An elaborated theoretical model of the social functions of self-injury and other harmful behaviours. *Appl Prev Psychol* 2008; 12(4): 159-168.
31. Haw C, Hawton K, Houston K, Townsend E. Psychiatric and Personality disorders in deliberate self-harm patients. *Br J Psych* 2001; 178: 48-54.
32. National Task Force on Suicide. Publication of the final report of the National Task Force on Suicide. Dept of Health and Children, 1998. [www.dohc.ie](http://www.dohc.ie)
33. Wasserman D, Carli V et al. Saving and Empowering Young Lives in Europe (SEYLE): a randomised controlled trial. *BMC Public Health* 2010; 10: 192.
34. Hawton K, Townsend E, Arensman E et al. Psychosocial and pharmacological treatments for deliberate self harm (Review). The Cochrane Library 2009, Issue 1.