Deliberate Self Harm in Children & Adolescents

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Abstract

This study compared children and adolescents who had deliberately self-harmed (DSH) with those who had not using data routinely collected during assessment at a Child and Adolescent Mental Health Service (CAMHS). The DSH group consisted of 64 boys and 194 girls aged between 7 to 18 years. The control group consisted of 175 boys and 181 girls aged between 11 and 18.

As in previous studies, there was a substantially higher proportion of girls who self-harmed or who had depressive symptoms when compared to boys. The study investigated the effectiveness of HoNOSCA as an assessment tool for DSH and compared it with other measures of seriousness of self-harm (BDI, PATHOS, clinician-based risk rating or previous episodes of self-harm). Comparisons of HoNOSCA-rated 'self injury' with other assessment tools showed advantages of the latter in detecting individuals at risk.

The study also investigated whether DSH was linked to changes in family living and explored trigger or risk factors. The HoNOSCA item 'Problems with family life and relationships' was linked to self-harm as expected. However, there were no substantial differences between the groups for measures of family living.

Analyses of risk factors showed background issues concerning breakdown of relationships and self esteem were relevant to DSH.

Key words: Self-injury, self-harm, HoNOSCA, BDI, adolescents, measures of seriousness, risk-factors

Introduction

In this study we examined factors connected with deliberate self-harm (DSH) in a sample of children and adolescents treated in a mental health service and explored how these might be reflected in routinely collected outcome measures and diagnostic instruments. The increase in numbers of DSH and suicide in children and adolescents over the last decades (Hawton, Fagg et al., 2000; Hawton et al., 2002) and initiatives to reduce these numbers indicate the need for thorough investigation of the origins and associated factors that lead to self-harm so that appropriate intervention and prevention programmes can be successful (National Collaborating Centre for Mental Health, 2004a, 2004b). This is particularly true given that DSH is the strongest risk factor for future suicide (Chitsabesan et al., 2003; Hawton, Zahl & Weatherall, 2003; Nadkarni et al., 2000). Findings suggest that girls proportionally engage more often in DSH than boys, although the number of males rises in later teenage years (Hawton, Rodham et al., 2002; Kingsbury, 1993).

Risk factors and aetiological approaches

DSH is common in adolescents (Hawton, Rodham et al., 2002) and associated with depressive symptomatology (Groholt, Ekeberg, Wichstrom & Haldorsen, 2000; Haw et al., 2002; Hawton et al., 1999), particularly in the case of repeated self-harm (Hawton, Kingsbury et al., 1999). Other risk factors include low self-worth (Bennett et al., 1997), infrequent parent/peer support, alcohol/substance abuse (Jones, 1997), previous self-harm, hopelessness (Groholt, Ekeberg & Haldorsen, 2000), intropunitive hostility (Brittleband et al., 1990) or history of sexual and physical abuse (Kaplan et al., 1997; Low et al., 2000). More psychodynamically orientated authors have tried to explain DSH as re-enactment of previous trauma (van der Kolk, 1989) and stressed the role of inwardly directed aggression (Farberow & Shneideman, 1957) or insecure attachment (van der Kolk et al., 1991). The ability to communicate seems important and DSH has been described as a method of communication (Machoian, 2001; Scott et al., 1997). Individuals who self-harmed reported more relationship problems which they experienced as insoluble and they had higher levels of hopelessness and suicidal intent (Milnes et al., 2002). The combination of internal family conflicts and external pressures and effects on an individual's self-esteem and sense of identity was stressed by Webb (2002). Deiter et al. (2000) linked DSH to impairment in self-capacity abilities such as ability to tolerate strong affects, maintain a sense of self-worth and connection to others. It seems important to consider the capacity of children and adolescents to deal with demands of their environment. Depending on how stable the external and internal structure of individuals is, the ability to cope with stress fluctuates (Reckless, 1961) and emotional distress involved in separation and experienced abandonment can lead to self-destructive behaviour (Hansburg, 1986). The role of a holding (Winnicott, 1960) or containing (Bion, 1984) environment seems important for the emotional and social development of a young person and in the case of a destabilisation of the family environment this very crucial experience can be affected and potentially lead to destabilisation of the individual (Marttunen et al., 1993). Hawton et al. (1982) highlighted the rather high number of single parent backgrounds for adolescents who self-harmed.

Assessment and outcome measures

A number of outcome measures are in common use in routine practice for purposes of assessment and outcome measurement for children and adolescents referred to mental health services. These include the Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA: Gowers et al., 1999), PATHOS (Kingsbury, 1993, 1996) and the Beck Depression Inventory (BDI-I and BDI-II: Beck & Steer, 1993, 1996; Beck, Steer & Garbin, 1988).

Although routinely used, there have been conflicting results from studies examining the effectiveness of HoNOSCA. Whereas some authors seem to confirm the instrument's reliability and validity and its sensitivity to change (Gowers, Harrington, Whitton et al., 1999), others note a lack of detail in the assessment of symptoms and narrow range of important social variables (Stein, 1999). An interesting question was therefore how effective the HoNOSCA is as a discriminative device in relation to self-harm.

The PATHOS (Problems for more than one month; Alone when DSH occurred; episode was planned for more than Three hours; feelings of Hopelessness and/or Sadness in the time before DSH) allows a risk assessment concerning the seriousness of DSH or intent to die. Concurrent validity of the scale was assessed by Kingsbury (1996), who reported high correlations with other measures including the BDI. It has not been examined against well-established risk criteria and correlations with psychiatric risk factors were low. It was therefore interesting to see how well PATHOS discriminates in comparison with other risk measures.

The BDI was developed for use with adults and adolescents aged 13 years and older, with high reported validity and reliability ranging from 0.73 to 0.93 (Beck et al., 1988, 1996). There is evidence that the BDI is a valid screening tool for depression in adolescents from the age of 11 to 19 (Bennett et al., 1997; Canals et al., 2001) and reliable with adolescents (Ward et al., 2004). There have been critical views voiced concerning the usefulness of the BDI for adolescents (e.g. Roberts, as cited in Myers & Winters; 2002). It was interesting to examine further the reliability and validity of the BDI in a sample of children and adolescents who had engaged in DSH.

This study

We compared a sample of children and adolescents who were known to have engaged in DSH with a further clinical sample who had not engaged in DSH. We were particularly interested in how well items in the HoNOSCA discriminated between the two groups. Those children referred for DSH also completed other measures, including the BDI-I, PATHOS and clinician-based judgements of risk, so we also sought to investigate how useful these measures might be as part of risk assessment and how they related to each other and to HoNOSCA items. In addition to these comparisons between measures, we also investigated possible differences between the two groups in drug use, antisocial behaviour and family structure.

Method

Design

The study is a retrospective study comparing information routinely collected from all children and adolescents referred to a Child and Adolescent Mental Health Service (CAMHS) over a five year period. Data from those referred for DSH were compared to data from children and adolescents not known to have engaged in DSH but who were referred to the CAMHS for other reasons.

The study did not involve direct contact with individuals but the use of data routinely collected by members of the CAMHS, which was partly quantitative and already electronically stored, partly qualitative and to be transformed into statistically useful data. All data were anonymised for the purpose of data analysis and storage and to ensure confidentiality (British Psychological Society, 2000, 2003).

The DSH group consisted of 64 boys and 194 girls aged 7 to 18 years who had engaged in self-harm and were seen by the CAMHS between January

1999 and January 2004 following admission to Accident and Emergency (A & E).

The control group included 175 boys and 181 girls between 11 to 18 years referred directly to the same CAMHS team. As with the DSH group, data from the period January 1999 to January 2004 were included. For the purpose of this study only assessment data were used.

Procedure

Data from all clients registered with the CAMHS between January 1999 and January 2004 were included in the study. The following selection criteria applied: for those participants in the DSH group who had engaged in more than one self-harm episode, only the first episode with complete data sets was included in the analysis. Data were excluded for clients with more than three missing BDI scores. This similarly applied to PATHOS and other measures. For clients with more than one episode, only the first episode with complete data was included in the analysis.

Instruments and measures

All instruments were routinely administered by members of the CAMHS. For all clients referred, a service-developed demographic data form and HoNOSCA were used. For those engaging in DSH, additionally the BDI-I (excluding the item asking about sexual activity), a structured interview about the DSH including PATHOS and a questionnaire assessing factors concerning DSH (including a clinician risk rating and assessment of precipitating factors and background issues) were used.

Results

Comparisons between the DSH and Control groups

Gender differences: There was a significantly larger proportion of girls in the DSH group (75%) than the control group (51%) (X^2 = 29.7, d.f. = 1, p = .000). The number of girls (N = 194; 75%) who had engaged in self-harm was more than double the number of boys (N = 64; 25%).

Age differences: The DSH group was significantly older (mean = 15.0 years, SD = 1.59) than the control group (mean = 13.8, SD = 1.89) (t = -7.66, df = 530, p = 0.000). DSH was most common amongst the 15-year-olds (28%) and 16-year-olds (39%).

HoNOSCA scores: Table 1 shows the scores on all thirteen HoNOSCA items for each group, with those items differentiating most between the groups at the top, the first six showing statistically significant differences between the groups. It is perhaps not surprising that the item that discriminated most was *'Non-accidental self injury'*. The DSH group also scored reliably higher on *'Problems with alcohol, substance/solvent misuse'* and *'Problems with family life and relationships',* while the control group scored reliably higher on *'Problems with scholastic or language skills',* *'Problems with overactivity, attention or concentration'*, and *'Problems with non organic somatic symptoms'*

Table 1. Mean scores (SD) for HoNOSCA items for DSH and control groups (ordered by size of effect)

HoNOSCA Item	DSH group	Control group	t-value	(df)
Self injury	2.41 (1.21)	0.36 (0.78)	22.12***	(456)
Substance misuse	0.50 (0.94)	0.16 (0.57)	4.43***	(398)
Scholastic problems	0.37 (0.71)	0.71 (0.95)	-3.57***	(395)
Family life	1.95 (1.07)	1.67 (1.18)	-2.48*	(480)
Overactivity	0.34 (0.72)	0.55 (0.77)	-2.43*	(383)
Non-organic symptoms	0.36 (0.76)	0.56 (1.04)	-1.97*	(398)
Peer problems	0.88 (1.02)	1.10 (1.08)	-1.94	(439)
Disruptive	1.02 (1.09)	1.13 (1.12)	-0.90	(432)
School attendance	0.85 (1.29)	0.98 (1.48)	-0.86	(412)
Self care	0.13 (0.49)	0.16 (0.52)	-0.46	(384)
Hallucinations	0.08 (0.38)	0.09 (0.43)	-0.30	(382)
Emotional problems	1.71 (1.06)	1.70 (1.13)	0.04	(484)
Physical illness	0.29 (0.68)	0.28 (0.74)	0.03	(389)

* $p < 0.05$ (2-tailed); ** $p < 0.01$ (2-tailed); *** $p < 0.001$ (2-tailed)

For the DSH group, the highest scoring item was *'Non-accidental self injury',* with an average score of 2.41, while, for the control group, the highest scoring item was *'Problems with emotional and related symptoms',* with an average score of 1.70.

HoNOSCA scores and age: Because of the age differences in the two samples, a further analysis was undertaken to check whether differences between the samples could be explained by age or whether they represent real differences. The two groups differed significantly across all age groups on the item *'Non-accidental self injury'. 'Problems with family life'* and *'Problems with substance abuse'* differentiated the groups only for the 13-year-olds, while *'Peer problems'* differentiated the groups only for the 15-year-olds and *'Problems with overactivity'* differentiated the groups only for the 16-year-olds.

HoNOSCA scores and gender: A separate analysis was carried out for the two gender groups. Again, self-injury was highly significant in differentiating the DSH and the control group for both genders, and substance misuse was significantly higher in the DSH group for both genders. Girls in the control group scored significantly higher for *'emotional problems'* and *'overactivity'* while boys in the DSH group scored higher for *'physical illness'.*

Family living: About two-thirds of the DSH sample came from intact or single parent families, with minor gender differences. Of the girls, 33% came from intact families and 32% from single parent families compared to 28% males coming from intact families and 36% coming from single parent families. Most of the boys and girls in the control group (151 females (83%) and 156 males (89%)) lived in their original family. Only ten girls (5%) and four boys (6%) in the DSH group had experienced multiple family changes, compared to 41 girls (23%) and 30 boys (17%) in the control group, with the control group overall having a significantly larger proportion with experience of multiple family changes (X^2 = 25.1, df = 1, p < 0.001).

Measures of seriousness/predictors of self-harm for the DSH group only

Beck Depression Inventory (BDI-I): Girls scored significantly higher (mean = 22.37, SD = 12.36) on the BDI than boys (mean = 16.39, SD = 12.16), with girls scoring on average in the moderate and boys in the mild range of depression (t = 2.10, d.f. = 124, p = .037). This gender effect could not be found for any other measures of seriousness of self-harm.

The correlations between the various measures related to self-harm are shown in Table 2.

PATHOS: There was a small but significant positive correlation (r = 0.39, p < 0.01) between PATHOS and BDI (see Table 2). Comparing PATHOS with individual risk items of the BDI, the correlation was 0.38 (p = 0.01) with item 2 (hopelessness) and 0.27 (p = 0.01) with item 9 (suicide ideation).

Previous DSH: Of the 258 participants in the DSH group, 87% (N = 225) had not engaged in previous DSH and 13% (N = 33) had had previous episodes. There was no gender difference (X^2 = 0.62, df = 1, p = 0.61). Children without a history of DSH were slightly but significantly younger (mean age 15.1) than those with a previous episode (mean age 15.7) (t = 2.31, df = 256, p = 0.02). BDI scores were significantly higher (t = 2.63, df = 124, p = 0.01) for clients with previous self-harm (N = 19, mean = 28.1, SD = 12.54) than those with no earlier episodes (N = 107, mean = 20.07, SD = 12.15). There were slightly but not significantly higher PATHOS scores for clients with previous DSH (t = -1.06, df = 169, p = 0.29).

Clinician risk rating: There were significant positive correlations between clinician risk rating and PATHOS score (r = 0.44, p = 0.01), overall BDI score (r = 0.41, p = 0.000) and previous self-harm (r = 0.22, p = 0.000), with those who had previously self-harmed being given higher risk ratings than those who had not.

Self injury (HoNOSCA) and measures of seriousness: HoNOSCA 'self injury' ratings correlated significantly with the clinician risk ratings (0.16) and previous self-harm (-0.16) but not with BDI or PATHOS. Even the significant correlations were not very high and on the whole HoNOSCA item 'self injury' did not seem to be a particularly good indicator for the seriousness of self-harm. The negative correlation of -0.16 seemed particularly interesting and unexpected as it suggests that low HoNOSCA 'self injury' scores are associated with high scores for previous DSH. Stronger indicators for self-harm seemed to be demonstrated by high

correlations of the clinician risk rating with BDI item 2 and 9, BDI total and PATHOS total or high correlations between previous DSH and BDI item 9, BDI total and clinician risk rating.

Table 2 Correlation matrix for measures of seriousness of self-harm

	Self injury	Previous DSH	Clinician risk rating	BDI item 2	BDI item 9	BDI total
Previous DSH	-0.16*					
Clinician risk rating	0.16*	0.22**				
BDI item 2	-0.10	0.06	0.33**			
BDI item 9	-0.02	0.27**	0.46**	0.48**		
BDI total	-0.11	0.23**	0.41**	0.65**	0.67**	
PATHOS total	0.11	0.08	0.44**	0.38**	0.27**	0.39**

Note. Figures quoted are Pearson's correlation coefficients

* $p < 0.05$ (2-tailed)   ** $p < 0.01$ (2-tailed)

Comparison of HoNOSCA items and other measures of seriousness: Correlations were calculated between all HoNOSCA items and the other measures of seriousness. Because of the large number of correlations, the key patterns are summarised in Table 3, which shows the results of a hierarchical cluster analysis of the resulting correlation matrix, using Ward's method. Three main clusters of items are apparent, with the measures of seriousness of self-harm grouped together in Cluster A, which suggests they measure similar things. Also included in Cluster A are HoNOSCA items 'Problems with emotional and related symptoms' and 'Problems with non organic somatic symptoms'. Cluster C includes the HoNOSCA items relating to problems in family life/relationships, substance misuse or disruptive behaviour. These are not as closely related to the measures of seriousness. Items in this category describe to a large extent behavioural aspects. The remaining items form Cluster B, which interestingly separates the item related to peer relationships from other more relevant items, making it clear that this item assesses aspects different from those assessed by 'Problems with family life and relationships'.

Alcohol: Alcohol was used only by a small proportion of the sample when self-harming, with no reliable gender difference (14% females; 11% males). Those for whom alcohol was involved were slightly, but not significantly, older (mean age 16 years) than those who did not use alcohol (mean age 15 years). Comparing alcohol use with the measures of seriousness, there was a statistically significant relation of alcohol use and clinician risk rating

for the girls only (t = 2.85, df = 192, p < 0.01). For the boys only, alcohol use related to higher scores on the BDI risk items (item 2: t = 2.35, df = 19, p < 0.05; item 9: t = 2.53, df = 19, p < 0.05). Previous DSH was also significantly related to use of alcohol at the time of self-harm (X^2 = -3.68, df = 1, *p* = 0.06).

Table 3 Results of a hierarchical cluster analysis (Ward's method) of HoNOSCA items and measures of seriousness of self-harm

Cluster A	Previous DSH
	BDI total
	BDI item 9
	BDI item 2
	Problems with emotional and related symptoms (HoNOSCA)
	Problems with non organic somatic symptoms (HoNOSCA)
	Clinician risk rating
	PATHOS total
	Self injury (HoNOSCA)
Cluster B	Problems with self care and independence (HoNOSCA)
	Problems with peer relationships (HoNOSCA)
	Physical illness or disability problems (HoNOSCA)
	Problems with scholastic or language skills (HoNOSCA)
Cluster C	Problems associated with hallucinations (HoNOSCA
	Problems with alcohol, substance/solvent misuse (HoNOSCA)
	Poor school attendance (HoNOSCA)
	Problems with overactivity, attention and concentration
	Problems with family life and relationships
	Problems with disruptive, antisocial or aggressive behaviour

Precipitating factors: The most common precipitating factors were relationships with parents (36% females; 33% males) and other relationships (21% females; 14% males), with family stress being involved in 8% of the cases. Post trauma issues were cited for only three (2%) girls and no boys.

Primary and secondary long-term issues: Main topics in the background of DSH were the factors 'Dysfunctional Family' (18% females; 14% males), Self-esteem/image' (13% females; 17% males) or 'Family Breakdown' (12% females; 13% males). Sexual abuse was a primary issue for ten (5%) girls but no boys. Cultural issues figured as primary issues for only 3 (2%) females and none of the boys. Main long-term secondary issues were 'Self-esteem/image', 'Dysfunctional Family' and 'Family breakdown'.

Method of self-harm: The method most frequently used for girls (28%) and boys (27%) was Paracetamol, followed by other drugs or methods. Cutting was less frequent, but slightly more common amongst boys (13%) than girls (6%). Similarly, other methods were more common amongst boys (19%) than girls (4%). Comparing all drug methods with cutting and other methods, a chi-square test shows these gender differences to be statistically significant (X^2 = 20.3, df = 2, p = 0.000).

Discussion

Gender and age differences

The proportion of girls in the DSH group was much higher than in the control group. Also, the average age in the DSH group was higher (15 years) compared to controls (14 years). This was consistent with findings elsewhere (e.g. National Collaborating Centre for Mental Health, 2004c). It can be assumed that the overall age difference between the two groups is actually even greater as children aged less than 11 years did not appear in this study as there was no information on the database for the younger children.

Characteristics of HoNOSCA items

In comparison, the controls scored significantly higher for *'Problems with scholastic or language skills', 'Problems with non organic somatic symptoms'* and *'Problems with overactivity, attention or concentration'*. The DSH group scored significantly higher in *'Non-accidental self injury', 'Problems with family life and relationships'* and *'Problems with alcohol, substance/solvent misuse'*.

'Problems with family life and relationships' and *'Problems with emotional and related symptoms'* were represented in both groups as the two first problem areas and therefore limit the specificity to DSH. However, the statistically significant difference of mean scores in relation to *'Problems with family life and relationships'* for the DSH group compared to controls shows that there are distinctly more severe problems in the DSH group. When looking at different age levels, *'Problems with family life and relationships'* differentiates particularly well amongst the 13-year-olds, followed by the items indicating self-injury and substance misuse.

HoNOSCA and its relationship to other assessment tools and measures of seriousness (BDI, PATHOS, clinician risk rating and previous DSH)

We were interested in the relationship between the HoNOSCA-rated self-injury and other measures of seriousness of self-harm. Statistically significant correlations for *'Non-accidental self injury'* were found only for the clinician risk rating and previous self-harm. These correlations were not high and suggested therefore little predictive value of this HoNOSCA item for DSH in relation to severity. However, when simply looking at frequencies and extent of scoring for this item, the item appeared rather strongly and differentiated well between individuals who self-harmed and those who had not. However, as self-injury is only rated after DSH has happened, the predictive usefulness of this item remains questionable. Looking at the weak correlations with other measures of seriousness and stronger correlations of some of the other items, it may be more effective to focus on measures such as BDI, clinician risk rating or PATHOS for predictive considerations.

Statistically significant correlations were found between *'Problems with emotional and related symptoms'* and clinician risk ratings, BDI total, BDI 2, PATHOS total and HoNOSCA item *'Non-accidental self injury'*.

Significant correlations were also found between *'Problems with family life and relationships'* and clinician risk rating, BDI total, BDI items 2 and 9 and PATHOS total. For *'Problems with peer relationships'* significant correlations were found with BDI total and HoNOSCA item *'Non-accidental self injury'*. All these HoNOSCA items were also significantly correlated with HoNOSCA item *'Problems with alcohol, substance/solvent misuse'*. These findings underline the expectation that family and relationship problems potentially lead to a destabilisation of the individual, whereby alcohol/substance misuse might possibly play the role of a problem-solving attempt which then leads to further destabilisation.

BDI and other measures of seriousness

Compared to boys, who were mainly classified as mildly depressed, girls scored mainly in the category of moderate depressive symptoms. This result was consistent with findings in studies elsewhere (Canals et al., 2001; Coelho et al., 2002). Such gender differences could not be found in relation to PATHOS, previous self-harming behaviour or clinician risk ratings.

There were slight positive correlations between BDI and PATHOS and between BDI items 2 and 9 and PATHOS. Individuals who had previously engaged in self-harm scored higher on the BDI. This result seems plausible as it indicates links between increased severity of depressive symptoms and increased frequency of self-harm, which has been reported before (Hawton et al., 2002). There were slightly but not significantly higher PATHOS ratings for those who had engaged in previous DSH, which was contrary to the expectation as this is a measure of hopelessness and the severity of intention to die.

There was a strong connection between higher clinician risk ratings and higher PATHOS scores, which is expected, as both are clinician-based, external measures. This finding is supported by significant correlations between clinician risk rating and overall BDI score.

There were no significant correlations between BDI and HoNOSCA item *'Non-accidental self injury'*, which therefore questions the validity of this item for this group.

In summary, many of the most significant correlations with the measures of seriousness were gained by the BDI, which underlines the good predictive value of the BDI for DSH. Other frequent significant correlations were gained by the clinician-based risk rating or PATHOS, which might possibly be viewed as circular rather than evidence in this case.

Impact of family living

There was a nearly equal proportion of children in the DSH group from intact and single parent families and most individuals had not experienced multiple changes. When comparing DSH and control groups, the measure for multiple family changes showed that control group members experienced slightly but significantly more changes, which is contrary to what we expected. However, the HoNOSCA item *'Problems with family life and relationships'* is more strongly represented within the DSH group.

Risk factors and life events

Precipitating factors: The most frequent precipitating factor found in relation to DSH was 'Relationship with parents' followed by 'Other relationships', 'Family stress' and 'Feeling depressed'. Interestingly, the category 'Post trauma' only applied to some girls but to no boys.

Long-term issues: Primary background topics for both genders were 'Dysfunctional family', 'Self-esteem' and 'Family breakdown', which supports the hypotheses in relation to the links between disruption of the external and internal environment and DSH. The categories 'Cultural issues' and 'Sexual abuse' only related to girls, in smaller numbers than suggested by the literature.

These findings support our expectations that breakdown of relationships, particularly within the family, seems a major risk factor in the lead-up to DSH.

The role of alcohol in DSH

Alcohol, which was significantly more of a problem in the DSH group than in the control group, did not appear as relevant in proximal connection with DSH but could possibly be seen as a more distal variable as suggested by correlations of HoNOSCA item *'Problems with alcohol, substance/solvent misuse'* with other relevant HoNOSCA items, BDI item 2 and clinician risk rating. Of particular interest are the relatively high scores of the HoNOSCA item relating to alcohol amongst the 13-year-olds from the DSH group.

The role of disruptive behaviour in DSH

The item *'Problems with disruptive, antisocial or aggressive behaviour'* showed significant correlations with BDI item 2 and HoNOSCA items *'Problems with alcohol, substance/solvent misuse'* and *'Problems with family life and 'relationships'*.

Method of DSH

The study replicated results found elsewhere that, for both genders, self-poisoning (National Collaborating Centre for Mental Health, 2004c) was the most frequent method of self-harm, but cutting or other methods were more common amongst boys. However, the overall rather low numbers of cutting in the DSH sample might also be due to some children and adolescents not being brought to notice of CAMHS either because of discharge from A & E immediately after medical care without being recognised as DSH or because they never attended A & E in the first place.

Clinical and theoretical implications

The findings of this study indicate a limited use of HoNOSCA item *'Non-accidental self injury'* in contrast to other measures such as BDI, PATHOS or clinician risk rating. This underlines the usefulness of those measures in clinical setting as routine measures, and not just in the event of DSH, to assess risk and target preventative measures. It seems that in particular the assessment of depressive symptoms and intention to die bears strong links to the actual DSH, which is consistent with other studies.

The findings also highlight the discriminative value of HoNOSCA item *'Problems with family life and relationships'* and it would be interesting to know more about the exact nature of these problems.

Indications for the more exact nature of the conflicts were given by the identified background factors such as 'Family breakdown', ' Self-esteem', 'Relationship issues with family' for both or 'Sexual abuse' and 'Post trauma' for some girls. It appears that it is not the amount of change, as assessed by the item 'Multiple family changes', that seems to matter most for the disruptive effects on the individual but the exact nature of change or conflict and personal meaning and how it affects self perception. This is consistent with the differentiation made by Boergers et al. (1998) between interpersonal problems as precipitants and intrapersonal motivations. The development of depressive symptoms in this respect might be a mediating factor for subsequent self-harm.

For the clinical context the detailed assessment of these topics therefore seems of value for risk assessment.

Another finding interesting for clinical settings is the discriminative value of substance misuse amongst the 13-years-old. This seems potentially significant for the detection of risk factors at an early age and prevention. Overall, girls seem to constitute a particularly 'at risk' group when compared to boys.

The role of alcohol/substance as a distal factor for later DSH, as demonstrated in its links to the measures of seriousness/risk and other HoNOSCA items (particularly in the relationship area), seems noteworthy too and deserves further investigation (i.e., it could be seen as an expression of inner conflicts and problem-solving strategies).

Limitations

For some categories there was only a limited amount of data available due to missing data, which reduced the opportunity to carry out more substantial analysis. The difficulty of small numbers could be particularly seen for the measures of family living. However, the measures were strongly repetitive in content and therefore provide overall a good indication for the distribution of this measure over the sample.

There are limitations of the BDI in relation to its age spectrum which might exclude important information connected to depressive symptoms in the age range below 13. However, this point does not seem too problematic as the average age of children and adolescents who self-harmed was well within the BDI age range (15 - 16 years). The question for the ages below 13 therefore seems only interesting in relation to more long-term predictive considerations. Unfortunately, in this study it was not possible to compare the extent of depressive symptoms as measured by the BDI in the DSH group with those in the control group as there was no data available for controls.

Given the strong outcomes for the BDI in this study in relation to seriousness of DSH, for further service planning this might mean consideration of routine application of the BDI also for individuals who have not engaged in self-harm in order to collect potential risk factors from very early on.

Other limitations of this study lie in its limited size, which did not allow more extensive investigation in relation to underlying factors for DSH. This could be achieved by a more detailed analysis of the structured interviews after DSH or of other individual BDI, HoNOSCA or PATHOS items.

This study did not investigate the effects of treatment on the individual item scores (i.e., did not include discharge data). It would be interesting to see to what extent individual scores change after treatment or what the average duration of treatment is.

As many of the measures investigated depend to a large extent upon clinicians' judgements and therefore contain a certain degree of subjectivity, the issue of training in order to achieve good inter-rater reliability and shared understanding of risk appears important in relation to further studies.

Conclusion and future research

The findings of this study allowed aspects relevant to self-harm to be highlighted. Particular risk factors were detected such as the combination of gender (being a girl) and age (being 15/16) and important problem-areas were identified, in particular problems with family life and relationships,

which seemed to be of discriminative value in relation to the DSH group. Potential risk factors and background variables were also investigated, which emphasised the exact nature of relationship problems and their meaning to self esteem. Disruptive behaviour and alcohol were found to be significant in the background of DSH and connected to other problem-areas. Future research might be particularly useful in relation to more detailed analysis of the exact nature of inter- and intra-personal conflicts to explain how relationship problems can become triggers for DSH and the question of potential protective factors.

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