

Deliberate Self Harm in Children

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Objective: To study the nature of deliberate self-harm (DSH) in children and to identify the associated factors.

Setting: Child Guidance Clinic attached to the Department of Pediatrics of a teaching hospital in South India.

Subjects: Children with history of deliberate self harm who were referred to the CGC for psychological evaluation during a 10 year period.

Methods: Children and parents were interviewed together and separately and details regarding age, sex, family and school environment, stresses and nature of self harm were documented. Psychiatric diagnosis was made based on DSM IV diagnostic criteria.

Results: Among the 30 children included in the study, 21 were boys and 9 were girls. Majority of children were between the ages of 11 and 13 years, the youngest being 6 years old. 76% of children had history of acute stressful

life events and 62% of them had chronic ongoing stress. 62 % of children had stress in the family and 41% had stress at school. Stress in the family included death of a parent, conflicts with parents or siblings, mental illness in the family, parental alcoholism and parental disharmony. Stress at school included conflicts with classmates, punishment or negative comments by teachers and learning problems. Psychiatric disorders were present in 52% of children, the commonest being depressive disorder. The commonest mode of DSH was self poisoning, and rat poison (zinc phosphide) was the commonest substance used.

Conclusions: Deliberate self harm occurs in young children and the risk factors are comparable to those in adolescents.

Key words: *Attempted suicide, Children, Deliberate self harm, India.*

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Deliberate self harm (DSH) is defined as an act with a non-fatal outcome in which an individual deliberately initiates behaviour which causes bodily injury or ingests a substance in excess of the therapeutic dose or ingests a non-ingestible substance [1]. Even though deliberate self harm is common among adolescents, it is very rare in children [2,3]. Most of the studies on DSH among children and adolescents focus on adolescents and there is scant data on DSH in children. It has been shown that deliberate self harm in childhood is often a forerunner of DSH in adolescence [4]. Deliberate self harm is an indicator of underlying psychosocial problems and there is an increased risk of suicidal behavior in later life [5-7]. The present study was conducted to analyze the nature of deliberate self harm in children as well as to identify the factors associated with it.

METHODS

All children admitted to the Department of Pediatrics with suspected deliberate self harm are referred to the Child Guidance Clinic (CGC), for child psychiatry evaluation, prior to discharge. The admission policy of the department restricts admission to children below 13 years. Hence the present analysis includes only children aged 12 years and below. The final analysis includes only those cases in which both parents and child agreed that the child

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consumed the poisonous substance or attempted self harm intentionally. Children with accidental injuries, accidental or homicidal poisoning, and mental retardation were excluded. Verbal informed consent from both parents was taken prior to inclusion in the study.

In the CGC, children and their parents were interviewed together and separately and details regarding age, sex, family and school environment, stresses and nature of self harm were documented. Psychiatric diagnosis was made based on DSM IV diagnostic criteria [9]. For the study purpose, acute stress was arbitrarily defined as stress that occurred during the previous one-month period (examination failures, death or separation of loved ones, conflicts with parents, teachers or siblings) and chronic stress as long-term ongoing stresses (learning problems and adjustment problems at school, financial problems in the family, ongoing conflicts with parents or siblings, parental disharmony etc). Depending on the source, stress factors were further classified as family stress (death of a parent, mental illness in the family, financial problems, conflicts among parents, parental alcoholism, divorce and separation), parent stress (punitive parent, conflict with parents), school stress (examination failures, poor academic achievement, change of school, general adjustment problems at school), peer stress (bullying by classmates, being ignored by friends, conflicts with class mates) and teacher stress (punishment, adverse comments, being ignored) [10].

In the proforma, questions to elicit the actual intent to commit suicide were framed using the concerned part of the National Institute of Mental Health Diagnostic Interview Schedule for Children - Child informant (Interview about self) [11]. Children who attempted suicide were identified in accordance with the definition of attempted suicide by the National Institute of Mental Health Task Force [12]. According to this definition, self-injurious behavior is considered as a suicide attempt if it is associated with the psychological intent to end one's own life. Factors associated with attempted suicide in children were analyzed separately.

Data collection on DSH was started in January 1999 and the present analysis includes data for the 10 year period up to December 2008. The result of a preliminary analysis of data from January 1999 to December 2003 was published previously [8]. Statistical analysis was done using the Epi info version 3.4; 2007 statistical package.

RESULTS

Thirty children (9, 30% girls) were referred to the CGC during the study period with history of DSH. Of these, 23 children were above 11 years of age and 6 children were between 9 and 11 years. The youngest was a 6 year old girl. A twelve year old boy who attempted hanging died and was not included in the final analysis. Hence the final analysis included 29 children. Stress leading to DSH was present in 26 (90%) of children (**Table I**).

A real life model was present in 5 (17%) children. The mother of a 12 year old girl, who attempted hanging, had committed suicide a year ago by the same method. In other cases, children had come to know about suicide when someone in the locality had attempted the same. Two children read about suicide in the newspapers of whom one child had read about a student who committed suicide. Seven (24%) children came to know about suicide by watching television. The 6 year old girl had been

TABLE I STRESS FACTORS IN CHILDREN WITH DELIBERATE SELF-HARM (*N*=29)

Stress	No	(%)
Arguments or conflicts prior to DSH	16	55
Chronic stress	18	62
Acute stress	22	76
Acute stress on chronic stress	14	48
Some type of stress (acute or chronic)	26	90
<i>Family stress</i>	18	62
Conflict with parents	12	41
Conflict with siblings	8	27
Parental disharmony	4	14
Family history of mental illness	4	14
One parent expired	4	14
Father expired	3	10
Mother expired	2	7
Both parents expired	1	3
Parental alcoholism	1	3
<i>School stress</i>	12	41
Learning problems	8	28
Conflict with teachers (teacher stress)	5	17
Conflicts with peers (peer stress)	4	14

told by a relative that she would die if she ate face cream.

Though 14 (48%) children had harbored suicidal thoughts in the preceding one month, the act of DSH was preplanned in only 7 (26%) of them. The act was the first attempt in 27 children, the second in one child and the third in another child. The second attempt was by a 11 year old boy who consumed antipsychotic tablets and benzodiazepines. Both attempts were attention seeking behaviors and there was no actual intention to die. The third attempt was by a 12 year old girl who had lost her father when she was a year old and whose mother committed suicide by hanging a year ago. The first two attempts were when the mother was alive- the first by cutting a vein and the second by drinking kerosene. The present one was by attempted hanging. She had the intention to die, was depressed and refused to promise that she would not repeat the same act.

15 (52%) children had some type of psychiatric disorder. Among them 11 (38%) children had depressive disorder, 6 (21%) had conduct disorder and 2 (6%) had ADHD. One child had features of OCD.

The commonest mode of DSH was self poisoning by ingestion of a pesticide. The pesticides used included rat poison (zinc phosphide-10; 34%), organophosphorous pesticides (3; 10%) and pyrethrin (2; 7%). One child each had consumed kerosene and face cream. Eight (27%) children attempted self poisoning with drugs. The drugs implicated were alprazolam, paracetamol, carbamazepine, erythromycin, clonazepam, haloperidol and nitrazepam. Five (17%) children attempted hanging.

The act of DSH was attempted suicide in 15 (52%) children (5,33% girls) as per the definition, since they had the intention to die. These children were analyzed separately. All of them except the 6 year old girl were between 11 and 13 years of age. Nine (60%) children had depressive disorder and 4 (27%) had conduct disorder. One child had ADHD. Some type of psychiatric disorder was present in 11 (73%) children. 12 (80%) children had suicidal ideation in the past one month. 12 of them said they would not repeat the act but three were not sure. It

was the first attempt in 14 children and the third attempt in one child. Psychiatric disorders and depressive disorders were seen significantly more frequently in children who attempted suicide than in those who did not ($P=0.04$). There was no statistically significant difference in the stress experienced by these two groups of children. Although 12 (80%) children had harbored suicidal thoughts in the previous one month period, DSH was an impulsive act in 10 (67%) children and was preplanned in only 5 (33%) children.

DISCUSSION

The present sample consisted of 30 children aged 12 years and below who attended the CGC with deliberate self harm during a period of 10 years. The lifetime prevalence of DSH among adolescents was reported to be 18% in a school based study from Delhi [13]. It is well documented that only a small percentage of children and adolescents with DSH seek professional help [1,5,13]. Hence it is probable that our data indicate only the tip of the iceberg.

When the data on childhood poisoning from eight regional hospitals in India were reviewed in 1998, it was found that suicidal poisoning occurred only in children above the age of 12 years [14,15]. In the present sample all children who attempted suicide were above the age of 11 years, except for one child. The male/female ratio in the present sample was 2.3:1. Studies on DSH in children and adolescents have reported a higher incidence in females [1,3,16]. Other Indian studies have reported equal prevalence of DSH among adolescent boys and girls [13,17,18].

The association between stress and DSH in adolescents is well documented [1,3,13,17,19]. Both acute and chronic stress have been found to be associated with suicidal behavior in adolescents [10]. In the present sample 90 % of children had experienced either acute or chronic stress and nearly half of them had acute stressful experiences in addition to ongoing stress.

The family was the source of stress in the majority of children in our sample, similar to previous studies [1,3,13,17,19]. In our sample, 14% of children had lost one or both parents and another 14 % experienced parental disharmony. Studies have

WHAT IS ALREADY KNOWN?

- Deliberate self harm is common among adolescents and the risk factors include psychiatric disorders and stress in the family and school.

WHAT THIS STUDY ADDS?

- Deliberate self harm also occurs in children and the risk factors are comparable to those in adolescents.

reported that living with both parents is protective and that DSH is more common with history of parental demise [1,20]. Repetition of DSH is more common in children coming from dysfunctional families [21]. It could be assumed that supportive family environment helps children to cope with life stresses better and prevents deliberate self harm.

Studies have noted that academic stress is an important cause for DSH [5,13,18,19,22]. The finding that 41% of children in the present sample had school related stress supports this observation. High parental expectations and resultant parental behaviors were found to contribute to school-related stress in the present sample.

The finding that more than half of the children with DSH had psychiatric disorders is comparable with the results of previous studies among children and adolescents [1,5,21]. One important finding is that none of the children received any professional help although they had symptoms several months prior to the act of self harm. The parents did not identify their symptoms nor did they recognize their gravity. Early recognition and treatment of mental illnesses is important for the prevention of suicide because untreated and under-treated psychiatric disorders were found to contribute to attempted suicide [23].

In our sample, psychiatric disorders were significantly higher among children who attempted suicide compared to those in whom the DSH was not attempted suicide. Studies on attempted suicide among adolescents have reported that mood disorder, conduct disorder, ADHD and substance abuse are risk factors for suicidal behavior [5,2,24].

Hospital based studies report self poisoning as the commonest method of DSH in adolescents [3, 13]. In the present sample of children, the mode of DSH was self poisoning in the majority of cases

followed by attempted hanging. The substances used for self poisoning were common household pesticides and drugs. A study of completed suicides in children and adolescents from Delhi noted that suicide prevention strategies based on risk factors could be more effective rather than limiting access to methods since methods used to commit suicide were widely available [25].

The influence of modeling on suicidal behavior of children and adolescents is well documented. Children can get the idea of DSH from real life models or from the media [1,13]. In our sample a real life model was present in 17% children while 24% children learned about suicidal behavior by watching TV or cinema. The influence of visual media on the behavior of children needs in-depth evaluation and it is necessary to plan and implement appropriate guidelines for portrayal of suicide and deliberate self harm in the visual media.

This is a hospital based study and the findings could not be generalized. The prevalence and correlates of DSH in children and adolescents vary in different regions [13,18]. The findings of the present study may not be applicable to other regions. The regional characteristics should be considered while planning preventive strategies.

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