Suicide attempts or threats by children and adolescents in Johannesburg

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Summary

Current literature on suicide attempts by children and adolescents is reviewed. The records of children and adolescents in the 10 - 15-year age group who were referred to a child psychiatric unit over the 6-year period 1 January 1977 - 31 December 1982 were analysed. The results are presented and discussed.

Suicide attempts or threats together constituted an average of 10% of the psychiatric referrals in this age group, the figure for 1982 being substantially increased. The peak incidence was among 13-year-olds for both boys and girls. The female: male referral ratio was 2:1. Drug overdosage was the most common method, the commonly employed drugs being analgesics and benzodiazepines. In about 30% of both the boys and girls referred because of taking an overdose, a multiple-drug overdose had been used. Methods other than this were used three times more frequently by boys than by girls.

Major predisposing and antecedent factors were family stress (especially divorce), psychiatric illness in the patient or a family member, and school problems. Some 30% had previously made suicide attempts or threats, and at least 7% made further serious suicide attempts after initial treatment.

These results suggest a need for further investigations into factors relating to suicide attempts or threats in children and adolescents and their subsequent management.

Suicidal thoughts, threats and actions are reported in 10 - 30% of children referred to psychiatric clinics. A recent Canadian study showed that 0.25% of annual child and adolescent hospital admissions were for suicide attempts. Attempted suicide is reported to have increased during the past 2 decades. Suicide attempts are some 30 - 100 times more frequent than successful suicides. Female attempters generally outnumber males, especially among those taking overdoses of drugs. The peak incidence for both males and females is reported to be in 15-year-olds. Some studies report a seasonal effect, with an increase during winter months.

Broken home situations (parental death, divorce, separation) are widely described in studies of young suicide attempters. Psychiatric illness in parents is a common feature, the major problems being alcohol- or drug-related, depression and anxiety states.

Psychiatric illness in the index patient is reported in a few cases, depression being the most common diagnosis. Other observations have included aggression and hostility, substance abuse and impulsive reactions to acute crises.

Antecedent factors include: quarrels with parents or boy-/girlfriends or peers; disciplinary crises; longstanding parental difficulties, poor communication and strained relationships; stressful, chaotic and unpredictable family events; social isolation; poor relationships with a teacher; and economic stress.

A family history of suicide correlates with an increased rate of suicide attempts. Reasons for suicide attempts commonly cited include escape from or alteration of a situation perceived as intolerable, feelings of desperation and self-punishment.

Ninety per cent of suicide attempts involve drug overdose. Self-injury is reported to occur predominantly in males and may indicate greater suicidal intent. The most commonly used drugs are analgesics, benzodiazepines and barbiturates.

In the study by Garfinkel et al., some 5% of attempts were accompanied by a suicide note; this practice is more common among those less than 13½ years old. Most overdoses in childhood and adolescence are taken on impulse, and many are executed in such a way as to ensure a high likelihood of rescue. Nevertheless, 57% of cases in Garfinkel et al.'s study represented subjects with a history of one previous suicide attempt or more, and in a study of successful suicides 46% had previously threatened or attempted suicide.

In the light of the above observations it was decided to analyse the records of suicide attempts or threats among children or adolescents referred to the Child, Adolescent and Family Unit (CAFU) of the Department of Psychiatry, Transvaal Memorial Institute for Child Health and Development, Johannesburg.

Methods

This is a retrospective study using records of the CAFU for the 6-year period 1 January 1977 - 31 December 1982. Records were available for a total of 54 female and 27 male patients between the ages of 10 and 15 years inclusive. Most child and adolescent suicide attempters presenting at Johannesburg Hospital are referred to the CAFU. It may be that some 15-year-old patients (who are admitted to adult wards) were subsequently not referred to the CAFU. A few patients were referred directly to the CAFU by their families, general practitioners or welfare agencies.

Patients were referred to the CAFU after their immediate medical needs had been attended to. A full psychosocial history was taken from the parents and the child. Psychological and educational assessment was carried out if appropriate. As soon as possible a conclusion about suicidal intent (relating to the act), or suicidal potential for the future was arrived at, and any continuing help was negotiated with the child and parents.

In this study the following information was sought in each case: name and CAFU number, age, sex, date of birth, date on which first seen at the CAFU, method of suicide attempt or
nature of the threat, record of previous attempts or attempts by significant others (usually relatives), precipitating factors, and psychological or psychiatric illness in the index patient or the family.

The histories of the suicide attempts or threats were examined and the events preceding the attempts were grouped into the following broad categories:

- **Family dysfunction**, where the problems seemed to be mainly centred within the family.

- **Socialization problems**, where the patient was experiencing difficulty with peers, heterosexual relationships or societal norms. (This included antisocial behaviour.)

- **School problems** including poor achievement at school, parental pressure, refusal to attend school and truancy which seemed to be due to educational problems.

- **Medical problems** including any physical handicap.

- **Psychiatric disturbance** including depression, anxiety, hysteria and psychosomatic symptoms. None of the patients was psychotic. The diagnostic criteria were difficult to specify in retrospect since no single classification system had been used.

Other factors considered included parental death (suicide or otherwise), problems with boyfriends or girlfriends, fear of punishment, and family psychiatric illness (other than in the index patient).

**Follow-up**

An attempt was made to follow-up the 81 patients comprising this study. A simple questionnaire was used. Parents of children or adolescents considered in the retrospective part of this study were asked whether there had been any further suicide attempts or problems for which professional advice had been sought, and asked for details of the nature of such problems. They were also asked whether there had been any changes in family structure since the initial consultation, and how effectively the child was coping at present.

Obvious limitations of the present study include the possibility of non-referrals (especially in the older age group) and difficulties posed by its retrospective nature, e.g. lack of uniformity of the criteria for the diagnosis of depression, and incompleteness of data in certain instances. The findings reported here are, however, representative of those available in a specialized child and adolescent psychiatric unit for a 6-year period.

**Results**

A breakdown of cases according to year and sex is shown in Table I. Results are expressed as a percentage of total CAFU referrals per year matched for age and sex. It can be seen that an average of 10% of child and adolescent referrals in the 10 - 15-year age group was for suicide attempts or threats. In 1982 there was a higher proportion of suicide attempts or threats among referrals (17.2%). This could not be explained. The table shows a 2:1 female : male predominance among referrals for suicide-related problems.

Table II indicates the age and sex breakdown of patients referred because of suicide attempts and threats. Both males and females showed peak referrals among 13-year-olds.

**Suicide methods employed** are summarized in Table III. Drug overdosage was used by 86% of female and 64% of male attempters. Other methods accounted for 14% of attempts in females and 36% of those in males. These included consumption of insecticides, rat poison and organophosphates, alcoholic intoxication, jumping from heights or in front of cars, slashing the wrists or throat, firing blank cartridges and attempted electrocution or drowning. In the series studied 91% and 76% of female and male referrals respectively were for suicide attempts and 9% and 24% respectively were for threats.

**Classes of drugs used in overdoses** are summarized in Table IV. Multiple-drug overdoses were taken by 13 females (30%) and 4 males (29%). The most commonly used groups were the analgesics and benzodiazepines. Other drugs used included anticonvulsants (including phenobarbitone), phenothiazines, antidepressants, antihistaminics, antihypertensives, anti spasmodics, antibiotics and readily available proprietary medicines.

Table V ranks the major categories of precipitating or associated factors. It can be seen that for both males and females the four major antecedent or precipitating factors were, in order:
Follow-up study

Of the original 81 families, 42 (52%) could be contacted. Of the 42 families, 3 adolescent members (i.e. 7%) had made further suicide attempts within the 1-6 year period subsequent to their initial attempt or threat. Forty per cent of the families followed up had continued to get professional help for the child (psychological or educational or both), while in 60% of cases no further help had been sought.

Forty-eight per cent of the families reported significant changes in family structure since the suicide attempt. This included divorce, remarriage, return of a father to the home, removal of a child, a mother removed for psychiatric treatment and a child found in need of care and removed. An attempt was made to evaluate the continued level of function of the child since the suicide attempt (Table VII). Some two-thirds of the patients originally seen were reported to be functioning well in the academic, social and family spheres, while functioning was reported to be bad in these categories for about 10% of referrals.

Discussion

Hawton and Shaffer reported that 10-30% of child and adolescent psychiatric referrals are for suicide attempts or threats. Figures obtained in the present study suggest an average of about 10%. It should be noted, however, that a greater percentage of referrals occurred during 1982. This may correlate with the findings of other workers, which indicate a recent increased incidence of suicide attempts in this age group. An average peak incidence at about 13 years was found for both males and females, this differing from that of about 15 years in a recent Canadian study and from Hawton's observation that suicidal behaviour in boys is uncommon until 14 years of age. Carlson and Cantwell have noted that severe suicidal ideation increases at around the time of puberty. In the present study local policies regarding admission to paediatric or adult wards and subsequent referral for psychiatric follow-up may have affected figures for those over the age of 14 years. A decline in incidence is evident among the 14-year-olds (Table II). The CAFU sees adolescents up to approximately 17 years of age. Our study confirms the female predominance noted among adolescent referrals.

In the present study 'non-overdose' methods were used by about three times as many boys as girls, a finding in agreement with observations in the literature. Two patients who took overdoses (1 female with multiple-drug overdose and 1 male who took organophosphate poison) required medical intensive care treatment. This suggests that some 3.5% of attempts were of high lethality — a finding close to the 1% noted by Garfinkel et al. Low to moderate lethality attempts predominated and many were made in the direct presence of someone or in a situation in which family or others were nearby. Drugs used in overdose attempts showed a trend similar to that reported in the Canadian

| TABLE IV. ANALYSIS OF DRUGS USED IN SUICIDE ATTEMPTS BY CHILDREN AND ADOLESCENTS* |
|-----------------------------------------------|----------------|----------------|
| Drug category                                | Female (N = 43) | Male (N = 14)  |
| Non-narcotic analgesics                      | 17             | 5             |
| Benzodiazepines and tranquilizers            | 14             | 3             |
| Phenothiazines and anti-emetics              | 0              | 3             |
| Antidepressants                              | 2              | 2             |
| Proprietary medicines                        | 4              | 2             |
| Anticonvulsants (including barbiturates)     | 2              | 3             |
| Antibiotics                                  | 4              | 0             |
| Antispasmodics                               | 0              | 1             |
| Antihypertensives                            | 1              | 1             |
| Antihistaminics                              | 2              | 1             |
| Colchicine                                   | 1              | 0             |
| Not specified                                | 8              | 3             |

*Expressed as No. of patients using each drug group. The apparent discrepancy between the No. of males/females and the total No. of males/females using each drug group is a consequence of multiple-drug overdoses.

| TABLE V. RANKING OF MAJOR DETERMINANT AND ASSOCIATED FACTORS IN SUICIDE ATTEMPTS OR THREATS BY CHILDREN AND ADOLESCENTS* |
|-----------------------------------------------|---------------|---------------|
| Factor                                        | Females (N = 54) | Males (N = 27) | Total (N = 81) |
| Family dysfunction (including divorce)        | 89            | 88            | 89            |
| Psychiatric disturbance in index patient      | 50            | 55            | 52            |
| School problems                               | 35            | 40            | 37            |
| Family psychiatric illness                    | 33            | 30            | 32            |
| Socialization problems                        | 26            | 19            | 24            |

*Results expressed as % of referrals.

| TABLE VI. HISTORY OF PREVIOUS SUICIDE ATTEMPTS OR THREATS* |
|-----------------------------------------------|---------------|---------------|
| Females (N = 54) | Males (N = 27) | Total (N = 81) |
| Previous attempts or gestures                  | 26.0          | 30.0          | 27.0          |
| Previous threats                               | 5.5           | 7.4           | 6.0           |
| Attempts by significant others                  | 18.5          | 18.5          | 18.5          |

*Results are expressed as % of cases in each category.
study, figures for analgesic and benzodiazepine use being comparable. Our study, like that of Garfinkel et al., shows a markedly lower use of barbiturates than did Connel’s study. Multiple-drug overdoses were common.

Predisposing and antecedent factors highlight the significance of family dysfunction and stress, with divorce or impending divorce being the major factor. Psychiatric illness in the index patient (mainly ‘depression’) or in his immediate family (alcohol abuse and depression) are important factors, as are school-related problems. These findings are in agreement with reports in the literature.

Previous attempts had been made by 26% of the girls and 30% of the boys — figures approximating the 37% reported by Garfinkel et al. Some 5 - 7% of cases referred had made previous suicidal threats. In most cases the reasons for suicide attempts among adolescents were found to be: (i) to escape or gain relief from a situation (usually family-related) perceived as intolerable, or to indicate feelings of desperation; (ii) to manipulate or change people or situations; and (iii) ‘self-punishment’ (6% of cases in this study).

In nearly 20% of cases suicide attempts (successful or unsuccessful) had been made by significant others — usually relatives. This finding reinforces the significance of familial factors and the identification of the child with significant stress.

Physical ill-health was not commonly reported in this series, which contrasts with the finding of Hawton et al. that poor health or medical problems were frequent associated factors. Shaffer2 has noted an increased prevalence of suicide attempts within 2 - 4 weeks of birthdays in successful suicides among children or adolescents. An attempt directly ascribable to a birthday was noted in only 1 case in the present study.

The general prognosis for these adolescent suicide attempters is good, but there remain a proportion (10 - 33% in this study) who will need further help and a small number who will make further attempts (3 - 7% in this study). An important question is whether it is possible to predict who will make repeat attempts. In this study all 3 repeat attempters had a long history of psychiatric and behavioural problems, and in all 3 there was no change in family or environmental factors after the first attempt. Other features which may be of importance (shared by 2 out of the 3) are a history of sexual abuse and secretiveness concerning their adoption. Whether these features have any predictive value would have to be validated in a larger study.

Conclusion

From this study and a review of the literature, family dysfunction appears to be the most common predisposing factor in adolescent suicide attempts and threats. In general, the prognosis seems to be good. One-third of patients require ongoing help. A detailed psychosocial history with appropriate medical, psychometric and educational assessments will clarify areas in which further assistance may be offered to the adolescent, the family, or both.

Attempting suicide remains a very dangerous way of expressing emotional distress. Every effort should be made to prevent it by education of parents and care-givers and by recognition of life events which increase the likelihood of suicide attempts in a given society.

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