

Deliberate self poisoning in adolescents

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SUMMARY A retrospective study of 90 adolescents admitted to a district general hospital after deliberate drug overdoses was carried out. Underlying risk factors, the inpatient assessment, and the initial management offered to each patient were recorded. The longer term outcomes were assessed, with particular emphasis on psychiatric and related disorders. Many had underlying family problems; the parents of nearly half the patients were separated or divorced, and over half the families had already been seen by the social services or at the child guidance clinic. Three quarters of the patients had psychiatric assessments during admission, and of these 59 (66%) were referred for further psychiatric treatment. Of these over half withdrew from treatment. Eleven (12%) of the children took a further drug overdose. This study emphasises the need for psychiatric assessment and treatment in these children, but the results suggest that the success of management is limited by poor patient compliance.

The number of children under the age of 16 years admitted to hospital each year after attempts at deliberate self poisoning has been increasing over the past 20 to 30 years.^{1,2} Self poisoning is far more common than self injury in attempted suicides in this age group.¹ Young people who take overdoses of drugs share various background characteristics including broken homes (through divorce, separation, or death of parents), parental psychiatric disturbance (including suicidal behaviour), and past histories of child abuse. Events immediately preceding suicide attempts include quarrels with parents or boy or girlfriends (often after long standing difficulties in their relationships with their parents), and social isolation.¹⁻⁴ Only a few young people with parasuicidal behaviour have a definite psychiatric illness, usually depression, but a considerable number are probably psychologically disturbed.⁵

In 1982 the Royal College of Psychiatrists published guidelines for the management of parasuicide in young people under the age of 16 years.⁶ These stated that all patients in this group seen after an overdose should be admitted to hospital, preferably to a paediatric ward. They should be treated there for any effects of drug toxicity, and they should remain in hospital until an assessment could be made by a member of the child psychiatric team. The guidelines recommended that in areas with limited resources the child should be kept in hospital for a few days, even if medically fit for discharge, in order for such an assessment to be made.

St Helier Hospital is a district general hospital outside London. Within the district there are two child guidance clinics, and there is a department of child psychiatry at a nearby children's hospital. During much of the study period, however, there were no child psychiatry sessions at the district general hospital. An informal weekly paediatric and psychiatric liaison meeting was initiated during the study period, and children are now seen in the ward by request. In addition there is a regional adolescent unit to which referrals may be made.

The aim of this study was to look into the background characteristics of each patient admitted to the paediatric ward after a deliberate drug overdose, and to assess the factors that precipitated the overdose. Its other aim was to look at the assessment each patient received in hospital, the subsequent follow up, and whether or not the patient complied with this treatment.

Patients and methods

Between 1 January 1980 and 31 December 1985 a total of 90 children were admitted to the general paediatric ward at St Helier Hospital after deliberate attempts at self poisoning. Information about these patients was initially obtained by examining the hospital case notes. Details noted about each patient included sex, age at the time of the overdose, and particulars of the family and social

background. Whatever precipitated the overdose was also noted and the drug (or drugs) taken.

Details of the management of each child in hospital were obtained from the case notes, which also gave the initial follow up plan. Further information on each patient was then obtained by contacting the various agencies concerned: the child guidance clinics, the regional adolescent unit, the social services, the general practitioners, or other hospitals. It was then possible to ascertain whether each patient had attended for their follow up appointments as arranged, whether they completed their treatment, or whether a referral to a further agency was necessary.

Results

Ninety children were admitted during the study period, with a mean admission rate of 15 patients a year (range 6–20). The lowest admission rate was six patients in 1980, increasing to 20 in 1982; this increase was subsequently sustained. The ratio of boys to girls was 1:8. The average age of the whole group was 14.5 years (range 10.4–16.6 years). The figure shows the age and sex distribution of the patients; only one was under the age of 12 years at the time of admission. She was the sibling of another child who had been admitted earlier in the same year after taking an overdose, and came from a disrupted family background.

Table 1 shows the details of the family and social background of the patients. Of the 90 children, 39 (43%) came from homes where the parents were divorced or separated, and in 49 cases (54%) the patient or the family, or both, had previously been referred to, or were currently under follow up, either by the social services or the child guidance service. In only three cases was a clear history of child abuse obtained: one of the children had been

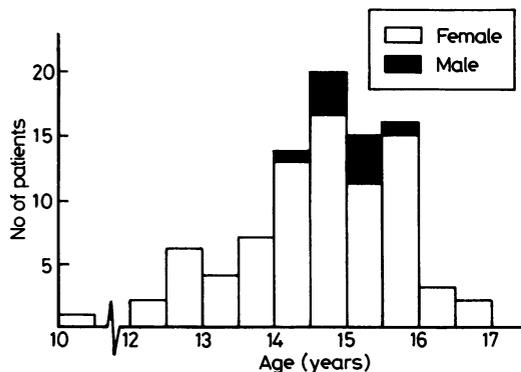


Figure Age and sex distribution of patients.

Table 1 Background of the children

	No (%)
Parents divorced or separated	39 (43)
Family seen at child guidance clinic	27 (30)
Family seen by social services	22 (24)
Subject in childrens' home	6 (7)
History of child abuse	3 (3)
Subject adopted	1 (1)

sexually abused by her stepfather for some years, and another girl had been sexually abused by an uncle. The third was a case of physical abuse by the child's father.

The drugs taken most commonly were paracetamol (31%) and salicylates (30%). Twenty three patients (26%) took either tranquillisers or antidepressants, which in most cases had been prescribed for another member of the household. Only three of the children took alcohol with the overdose.

There were no deaths in the study group: only one patient (who had taken amphetamines) was ill enough to require admission to the intensive care unit, and only 13 (14%) required specific medical treatment as a result of their overdose. The remainder were kept under observation but they remained satisfactory with no untoward effects, and in those in whom serum concentrations of the drugs were measurable, they were below the toxic range.

The specific factors precipitating the overdoses are shown in table 2. The single most common risk factor was a problem within the family—in particular, difficulties in the relationships between the children and either parent (or step-parent). In 40 of the 90 (44%) there were several precipitating factors—for example, difficulties at school for a child who was also experiencing problems with family relationships.

Sixty six (73%) of the children were seen by a member of the child psychiatric team during their hospital admissions: this was either the consultant in child psychiatry (or, less commonly, a senior registrar or registrar working with him), or a psychotherapist. Sixteen patients (18%) were seen

Table 2 Reason for overdose

	No (%)
More than one reason	40 (45)
Family problems	29 (32)
Row with boy or girlfriend	9 (10)
Bereavement	4 (4)
Problems at school	3 (3)
Physical illness	3 (3)
Prank	3 (3)

by one of the hospital social workers attached to the paediatric department who were accustomed to dealing with such problems. Of the remaining eight patients, five were seen by a consultant paediatrician who felt that no further intervention was required, in two cases the parents refused help and took the child's discharge against medical advice, and the remaining patient was already being treated for depression by a general practitioner in another health district who arranged for her to be seen by a psychiatrist in that area. The length of stay in hospital varied between one and 16 days: one day, 25 patients; two days, 24; three days, five; four days, six; five days, seven; six days, one; seven days, five; eight days, four; nine days, three; 10 days, three; 11 days, one; 12 days, two; 13 days, one; 14 days, two; 15 days, none; and 16 days, one. Only one patient was kept in hospital because of a medical problem: in all the others the time spent in hospital was dependent on a satisfactory psychiatric assessment, which sometimes concerned several agencies.

As a result of the initial consultations in hospital, 59 (66%) of the children were referred for further psychiatric help. Of these 46 were seen at the child guidance clinic, 12 at the adolescent unit, and one by a psychiatrist in an adult unit. A further 10 children were referred to area social services for follow up (table 3). Seven patients refused follow up; these included the two patients already mentioned whose parents took their discharge before an assessment could be made, and the other five were seen by a member of the psychiatric team or a social worker while in hospital but declined the follow up offered. Ten patients had no specific follow up, six because the psychiatric team thought it was unnecessary, but four unfortunately do not seem to have been referred.

The outcome of the initial psychiatric referrals is shown in table 4. Only 15 of the 59 patients referred for further help (25%) actually completed their treatment to the point of being discharged. Three required inpatient treatment and nine were subsequently referred elsewhere for further help. In the

Table 4 Outcome of initial psychiatric referral

	No (%)
Did not attend	10 (17)
Initially attended then did not	22 (37)
Completed treatment	15 (25)
Inpatient treatment	3 (6)
Secondary referral	9 (15)

latter group, four were referred to the adolescent unit, in which only one patient actually completed her treatment; three patients were subject to care orders, one was placed in a residential hostel, and two were referred to an educational psychologist. In all, 35 of the 59 (59%) did not complete the suggested course of treatment. Failure to cooperate with treatment did not appear to be associated with the reason for taking the overdose.

Finally, certain other problems were identified in the overall study group of 90. Five (6%) were definitely known to be drug abusers at the time of the study, and four (4%) were referred back to the psychiatric services at a later date with new problems (not as a result of further suicide attempts).

Eleven (12%) of the study group were known to have taken a further overdose at the time of the study: one had done so within six months of the initial presentation, and a further five within one year. The other five had presented again as a result of deliberate self poisoning between 12 and 26 months of the first admission. Five of this group of 11 patients had withdrawn from treatment by the time they took their second overdose.

Discussion

Children aged 16 years and under who deliberately take drug overdoses make up an appreciable number of the acute admissions to paediatric wards, and this is a problem which seems likely to continue.⁷ It is therefore essential that in addition to attempting to identify the 'at risk' groups, attention is paid to subsequent management to lessen the possibility of their repeating the suicide attempt. In this study there was a pronounced increase in the annual admission rate between 1980 and 1982 which was then sustained. This increase is unlikely to be a chance finding; it probably reflects a combination of a genuine increase in the incidence of self poisoning in adolescents, and an increased awareness of the problem and how it is best managed.

Theoretically, all children aged 16 years and younger who are seen in the accident and emergency department of this hospital after deliberate drug overdoses are now referred to the paediatricians for admission and further assessment, whereas pre-

Table 3 Agency to which child was initially referred

	No (%)
Child guidance clinic	46 (52)
Adolescent unit	12 (13)
Psychiatrist	1 (1)
Area social worker	10 (11)
Special school	3 (3)
Place of safety	1 (1)
Refused any follow up	7 (8)
Nil	10 (11)

viously those who had taken comparatively trivial overdoses and were clinically well would have been discharged with no further assessment or follow up.

The results of this study confirmed some of the characteristics of children taking overdoses that have previously been recorded. Hawton *et al* found a female:male ratio of 9:1,² and White¹ and Rohn *et al*³ found 82% and 75% of girls, respectively. Only one of the patients in this group was under the age of 12 years. Neither Hawton *et al* nor White have any children under 13 years of age in their studies, although Rohn *et al* gave an age range of 7–19 years. Lumsden Walker had five children aged 12 years or less in his series of 50 consecutive admissions.⁴

Details of the family and social background, and also of the immediately precipitating factors of the overdose were similar to the findings of others.^{1–3} Loss of a parent through separation or divorce was a common feature, as were relationship problems with parents or step-parents.

The number of children who were definitely victims of child abuse is almost certainly an underestimate; perhaps the increased awareness of this problem will lead to more cases being identified in the future.

School problems were not a major precipitating factor, contrary to reports of other authors⁴; in only three of these cases were worries at school deemed to be the single factor preceding the suicide attempt.

As in this study, Hawton *et al* found that two thirds of his group took either paracetamol or salicylates²; he also found that these drugs were taken more commonly by the group less than 15 years old than by the 16–18 year olds. He also found that only a small number consumed alcohol. Both paracetamol and aspirin can be readily bought from chemists and supermarkets, or are in the family drug cabinet, yet in toxic doses both are potentially lethal. Fortunately most of the patients took only small quantities of the drugs, with only 14% of the whole group requiring specific medical treatment for poisoning. It seems that most of these children do not have serious suicidal thoughts, but their actions in taking an overdose are impulsive. It is unlikely that many, if any, realise the potential hazards of taking an excessive number of what they probably regard as comparatively harmless drugs, and education has therefore an important part to play in management.

An appreciable number of children stayed in hospital for an unacceptably long time. In our area this is no longer such a problem because of improvements in the paediatric/psychiatric liaison in the past few years, but in areas with limited resources (particularly in the form of child psychiat-

ric services) it is likely that children are either kept in hospital for longer than necessary, or are discharged with an outpatient appointment to be seen by a psychiatrist but with no acute assessment being made at the time of the overdose. In both instances by the time the child is seen the crisis is over. The weekly paediatric/psychiatric liaison meeting at this hospital was initiated at the request of the paediatricians at a time when there was no immediate prospect of an increase in the number of child psychiatry sessions in the district. This gave the paediatricians the opportunity to discuss cases, including those admitted after deliberate self poisoning, with their psychiatric colleagues. Since this study was completed, more child psychiatry sessions have been allocated at the district general hospital.

This leads on to another important point—the finding that more than half of the patients referred for further psychiatric help withdrew from treatment. This confirms the finding of White.¹ One way in which compliance may be improved is if the time between admission and the psychiatric assessment is shortened, and if the liaison between the various agencies concerned in making these assessments is speeded up. Newson-Smith and Hirsch assessed the ability of trained social workers to carry out initial assessments on patients who had attempted suicide and suggested that in hospitals where social workers were more readily available than psychiatrists, they should undertake some of these assessments.⁸

Concerning longer term problems, the figure of 6% who were known to be drug abusers at the time of this study is (like the previously quoted figure for child abuse) almost certainly an underestimate as there are likely to be several more who are not registered drug abusers. The figure of 4% who were referred for psychiatric help at a later date, however, is probably fairly accurate as information about this is more readily obtainable. This bears out the hypothesis that this particular group of children are more psychologically than psychiatrically disturbed.

The number of children who repeated the suicide attempt (12%) is similar to that found in other studies. White¹ followed up his patients for one year and in this time 12% committed further acts of self harm. Similarly, Hawton *et al*² found that 14% of their group repeated their self poisoning attempts within one year (10% of these within the first three months). The fact that nearly half of those in this study who repeated the attempt had withdrawn from treatment emphasises the point that compliance is a serious obstacle in trying to help these young people.

Finally, because this was a retrospective study, it

was not possible to examine directly the motivation behind the suicide attempts. This was studied by Hawton *et al* and one of the conclusions from their study was that adolescents rarely took overdoses to get professional help, and this may partly explain the poor compliance with treatment.⁹ They suggested that rather than developing specialised agencies to help adolescents once they have considered taking an overdose, one should seek to modify their attitudes both to self poisoning and to seeking help at an early stage of their problems—not after a crisis develops. This could be achieved through discussion in schools, and possibly by education in the media. Taylor¹⁰ puts forward a similar view in favour of preventive counselling services, which are not just available to those who are suicidal.

In conclusion, those children and adolescents who are admitted to hospital following deliberate drug overdoses share a number of clearly identifiable background characteristics. Guidelines have been laid down for the management of these patients from the time they present to the accident and emergency department, but follow up suggests that however well these guidelines are adhered to, the ultimate success of treatment is largely limited by poor patient compliance. Education and preventive counselling services should be expanded to help those young people who are at risk.

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