precursors of uncontrolled eating. These included being on her own with a supply of food close at hand and feeling anxious or guilty about her work. She also recognised that she tended to eat and study at the same time with the result that she neither enjoyed the food nor concentrated on the work. Using the above evidence she was in a better position to reorganise her daily routine in a way that would reduce the temptation to overeat. She started to work in the library (where eating is prohibited) and ate in company when possible. She arranged to store food in her landlady's kitchen rather than her own room, so that whenever she wanted to eat she could select the desired quantity from the kitchen and return to her room, using a plate and appropriate cutlery. To help maintain the changes in her behaviour she kept records of her eating and studying, and we reviewed these at first after two days, and then weekly. She was pleased with her initial progress and felt sufficiently confident to extend her social activities. With a more active and enjoyable life, food declined in importance

and, apart from one temporary relapse, Sally managed to maintain a satisfactory weight over the following months with less conscious effort.

Conclusion

In these examples it was relatively easy for student and therapist to agree on the specific aims of treatment. By taking an active role in finding constructive ways of dealing with their particular problems each student also gained in self-confidence and self-reliance. On the whole, students are not firmly entrenched in a particular way of life and so are comparatively free to challenge their views of themselves, change their behaviour, and make new friends.

Clinical Topics

Self-poisoning with drugs: the past 20 years in Sheffield

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Summary

In Sheffield there are now over 1000 admissions to hospital each year because of self-poisoning, an increase of twentyfold over the past two decades. The city is representative of the Trent Region, and it can be confidently estimated that there are at least 100 000 cases of self-poisoning in the United Kingdom each year.

Most patients are in their late teens and early twenties, and in young women self-poisoning is the most common cause of emergency admission to a medical ward. Although the drugs are usually prescribed by a doctor, patients, especially the young, are showing an increasing tendency to misappropriate drugs prescribed for others. The choice of drug is a matter of simple availability, and national trends in prescribing are reflected in the overdose figures. Barbiturates and paracetamol are responsible for the most deaths. Residence in densely populated areas may be a predisposing factor.

Introduction

No one caring for patients admitted to acute medical wards can fail to be aware of the alarming number of admissions due to self-poisoning, and those of us with several years experience will know that it has not always been so. It is a modern phenomenon and many observers from different parts of the country have commented on it. Similar patterns for Edinburgh,¹ Oxford,² Cardiff,³ and Sheffield⁴⁻⁶ have been described.

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Method

Self-poisoning incidents in 1954-75 were traced from the three Sheffield casualty departments (Royal Hospital, Royal Infirmary, and Northern General Hospital) and by examining inpatient records. Additional information was provided by the diagnostic indices of the hospitals and the accumulative index of the Trent Regional Health Authority.

Self-poisoning in Sheffield

There has been an alarming increase in the number of cases of self-poisoning over the past 20 years. There were almost 1200 admissions for

TABLE I—Age and sex distribution of 3566 patients admitted to four Sheffield hospitals because of adverse effects of drugs in 1972-4.

Age (years):	<15	15-24	25-34	35-44	45-54	55-64	65	Total
No of males	374	325	305	165	93	66	45	1373
No of females	371	663	459	272	164	121	143	2193
Female : male ratio	1.0	2.04	1.5	1.65	1.76	1.83	3.18	1.60

TABLE II—Number of admissions to three Sheffield hospitals each month because of self-poisoning (January 1970 to January 1976)

Month	1970	1971	1972	1973	1974	1975	1976
January ..	47	99	54	81	73	86	94
February ..	53	77	62	74	105	80	
March ..	71	66	94	79	113	119	
April ..	54	86	84	84	82	84	
May ..	56	90	87	108	120	96	
June ..	87	74	81	87	107	88	
July ..	69	106	79	102	117	81	
August ..	56	72	87	92	105	94	
September ..	59	65	96	74	89	82	
October ..	68	57	76	89	89	111	
November ..	60	56	74	76	81	92	
December ..	67	63	67	79	76	72	
Annual total	747	911	941	1025	1157	1085	

self-poisoning in 1975 compared with under 50 in 1955. This represented 11.3% of all medical admissions and 29.7% of the emergencies. In two of the city hospitals self-poisoning was the most common cause of emergency admission among women. The diagnostic indices of the Royal Infirmary, Royal Hospital, Northern General Hospital, and Children's Hospital showed that there were 3566 admissions due to self-poisoning from 1972 to 1974 (table I).

Number of patients admitted suffering from self-poisoning with named drugs 1957-75.

There was a pronounced but inconstant seasonal variation (table II). The number of admissions during December 1975 was abnormally low, and it is tempting to attribute this to the junior hospital doctors' industrial action, which was in progress at the time. The peak time of presentation was between 12 midnight and 1 am, a time when it is most likely to cause maximum inconvenience to hospital staff.

Tranquillisers were by far the most common group of drugs consumed, accounting for 35% of adult self-poisoning incidents. Salicylates were responsible for 12%, barbiturates 10%, antidepressants 6.9%, and paracetamol 4.6% of incidents. Combinations of drugs accounted for 13% of cases. A comparison between intentional self-poisoning in adults and accidental poisoning in children is instructive. In children salicylates accounted for 33% of cases, presumably reflecting the wide use of aspirin as a home remedy. But tranquillisers were responsible for over 10% of cases, even though they are rarely prescribed for children. The changing pattern of drug consumption is shown in the figure. There was a striking correlation between the number of prescriptions issued nationally for tranquillisers, antidepressants, and non-barbiturate hypnotics and the number of incidents of self-poisoning due to these drugs.

In the Trent Region in 1972-76 131 patients died as a result of adverse effects of drugs. This represented 0.52% of the total number of 25 132 incidents of self-poisoning. The highest death rates were due to barbiturates (1.7%) and paracetamol (0.8%). The choice of drug was entirely a matter of convenience: 94% of patients took the first thing they could get hold of, and over 80% of patients said they did not know what would constitute a fatal dose.

Forty per cent of patients had consulted their doctor within the week before the overdose and two thirds within the previous month, but the drug was prescribed for the patient in only a third of cases. A further third had taken tablets belonging to a relative or friend, while the remaining third had taken drugs which were freely available without prescription. One-third of the patients had previously consulted a psychiatrist, and a quarter gave a history of an episode of self-poisoning.

During 1973 1025 patients were admitted, 993 of whom had addresses within the city boundary. These addresses were plotted on a large-scale map of Sheffield. In the city centre, where there are

relatively few residents, the incidence of self-poisoning was low. Surrounding the centre is a belt of high-density population, where the incidence of self-poisoning was high. When the true incidence of self-poisoning was calculated, taking into account variations in the density of population, classification by type of housing showed striking differences. The highest self-poisoning rates occurred in areas where the density of population was greatest, particularly in high-rise flats, while low figures were the rule in the middle-class suburbs.

Discussion

Several observers have studied self-poisoning in Sheffield.⁴⁻⁶ If the alarming increase in the number of cases continues adults who have poisoned themselves will fill all the available emergency medical beds by the year 1984. Sheffield, with a population of about 520 000, is representative of the Trent Region, which serves a population of about 5.5 million—roughly 10% of the population of the United Kingdom. It can therefore be confidently predicted that there are now over 100 000 admissions yearly to United Kingdom hospitals as a result of self-poisoning. Similar results have been reported by other observers^{2,7} from other areas of the country.

In late 1975 and early 1976 several observers drew attention in the press to a fall in the number of admissions due to self-poisoning during the junior hospital doctors' industrial action in December 1975. Subsequently conflicting evidence appeared in the medical journals.^{8,9} In Sheffield, the number of incidents of self-poisoning was also unusually low during December 1975, and this month proved to be the most atypical for at least six years.

A previous study showed that 76% of patients had obtained the drug legitimately from a medical practitioner,⁵ and a similar figure of 80% was quoted by Smith.⁶ There now appears to be a growing tendency, however, especially among teenagers, to consume drugs prescribed for a parent, sibling, or friend. Of the drugs obtainable only on prescription at least half had been prescribed for another person.

It is difficult to suggest any sensible prophylactic measures. Two-thirds of the patients had consulted their doctor the month before the overdose, and perhaps closer attention to precipitating stresses, appropriate referral, and avoidance of over-prescribing would help.

It is a sad reflection on our society that the only thing that had a demonstrably favourable effect on the rate of self-poisoning, was the threatened withdrawal of emergency services.

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References

- Kessel, N, *British Medical Journal*, 1965, **2**, 1265.
- Evans, J G, *British Journal of Preventive and Social Medicine*, 1967, **21**, 97.
- Graham, J D P, and Hitchens, R A N, *British Journal of Preventive and Social Medicine*, 1967, **21**, 108.
- Parkin, D, and Stengel, E, *British Medical Journal*, 1965, **2**, 133.
- Jones, D I R, *Practitioner*, 1969, **203**, 73.
- Smith, A J, *British Medical Journal*, 1972, **4**, 157.
- Aitken, R C B, Buglass, D, and Kreiman, N, *British Journal of Preventive and Social Medicine*, 1969, **23**, 111.
- Crockett, G S, *British Medical Journal*, 1976, **1**, 92.
- Pallis, D J, and Nelson, B, *British Medical Journal*, 1976, **1**, 342.