Drug problems dealt with by 62 London casualty departments

A preliminary report

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Ghodse, A. H. (1976). *British Journal of Preventive and Social Medicine*, **30**, 251-256. **Drug problems dealt with by 62 London casualty departments: a preliminary report.** A study of the whole spectrum of drug incidents dealt with in one month by 62 casualty departments in the Greater London area was carried out in the summer of 1975. Apart from demonstrating the large number of such incidents, this preliminary report presents an analysis of the drugs responsible for these episodes, basic demographic characteristics of the drug users, and an estimate of the contribution of drug dependence.

Much of the research on drug problems has been focused on only one of four interrelated issues: the illegal use of drugs (Bewley, 1966; Mitcheson *et al.*, 1970), suicide and suicide attempts in which drugs are the agent (Evans, 1967; Aitken, Buglass, and Kreitman, 1969; Smith and Davison, 1971), the symptoms and effects of physical dependence (Jaffe, 1970), or episodes and outcome of acute drug intoxication (Morgan *et al.*, 1975). In addition, many of these studies concentrated on one particular setting or institution. This paper, by contrast, illustrates the whole range of drug problems dealt with by 62 London casualty departments.

The non-medical use of drugs, particularly those with psychotropic properties, has increased rapidly during the past 25 years (Smith and Davison, 1971; World Health Organisation Study Group on Youth and Drugs Report, 1973). Many studies have noted the concomitant increase in self-poisoning and also the fact that many of the people who use drugs specifically for the psychic effects are dependent upon them (Mitcheson *et al.*, 1970; World Health Organisation Study Group on Youth and Drugs Report, 1973). Although the use of more than one drug by one person is certainly not a new phenomenon, it used to be the case that one drug was substituted for another whereas now the trend is for a number of drugs to be used simultaneously

for heightened effect (Mitcheson *et al.*, 1970; Javel and Inaba, 1973). The use of more than one drug in self-poisoning has been noted (Smith and Davison, 1971), as has the increasing use by young people of alcohol in combination with other drugs (Teare, 1966; Smith and Davison, 1971; Ovenstone and Kreitman, 1974).

The precise extent of these various patterns and aspects of drug use in the general population is, of course, impossible to establish. It seems likely that there may be a group of people of unknown numbers who take an overdose, either in a self-poisoning attempt or in the course of their dependence, but who do not seek help from any medical agency. However, most of the people who take a drug overdose, either deliberately or accidentally, are seen in casualty departments (Evans, 1967). It is also known that many of those who are dependent go to casualty departments either to try to obtain drugs or because of problems related to their dependence (de Alarcón and Rathod, 1968). An analysis of all the people who attend casualty departments in a particular area should, therefore, shed some light on the nature and extent of serious drug problems in the general population, while information on the size of the problem and the characteristics of the patients should help the planning of more effective preventive and treatment strategies.

METHOD

All 66 casualty departments in Greater London were approached and 62 of them agreed to participate in the study. Since casualty departments are busy a long period for data collection was impractical. The survey which began on 7 July 1975 therefore lasted exactly one month.

A specially-designed questionnaire was filled in for each person who attended a casualty department. In each case the reason for the visit was recorded:

- (a) for overdose either intentional, or accidental, or in the course of drug dependence,
- (b) for other reasons which were somehow related to their drug dependence—for example, abscesses due to self injection, septicaemia, hepatitis, drug psychosis, etc., or
- (c) demanding drugs.

The questionnaire was printed on self-adhesive paper, so that it could be attached to the casualty card. The information remained part of the hospital notes, and there was no need for the casualty officer to record his findings in duplicate. The questionnaire explored the personal characteristics of the patients, recorded the drugs which precipitated the incident, the source of supply, the method of administration, and any previous overdoses. Certain physical and mental effects of the drug such as the level of consciousness and aggressive behaviour were also noted.

There had to be a balance between the brevity of the questionnaire, for the sake of hard worked casualty staff, and the wish to obtain as much information as possible. All casualty officers were issued with instructions to help them complete the questionnaire accurately. Words and phrases such as 'dependent', 'consciousness impaired', 'suicidal attempt' were carefully defined so that there was no doubt about their meaning and to ensure that the same criteria were being applied by all casualty officers. A pilot study was carried out for one week in three hospitals, and alterations to the questionnaire were made in accordance with these preliminary findings. A team of five research assistants were trained for one week, and then were introduced to the casualty staff of the hospitals for which they were responsible. Each hospital was visited by a research assistant either daily or on alternate days. Using a portable photostatic machine a copy was made of each completed questionnaire.

For various reasons it was impossible to take blood and urine samples from all patients in all hospitals. Four hospitals, therefore, were selected and samples of blood and urine obtained from all patients who

agreed to this procedure. These samples were analysed in the pathology laboratory of the Maudsley Hospital. It was hoped in this way to obtain some objective confirmation of the patients' account of which drugs they had used. Throughout the study communication was maintained with each casualty department, not only by the research assistants, but also by a daily telephone call and by a weekly letter which reported the findings to date. In this way each department was kept closely involved with the progress of the study.

Random checks of the records of all patients attending the casualty departments were carried out to ensure that patients with drug problems were not being overlooked, and further checks were made during the daily telephone contact with each department. Identification of a patient who attended one or more hospitals on more than one occasion was made on the basis of name, date of birth, and address. If two or three variables were identical the data were considered to refer to one person only.

RESULTS

NUMBERS AND RATES

During the month of the survey 1956 drug-related incidents were dealt with in 62 casualty departments in Greater London. There was a total of 207 081 casualty attendances in the same departments during the same period. The rate of drug-related incidents was therefore 9.4 per 1000. However this ratio is an underestimate because children under the age of 15 years attending with a drug-related problem were not reported by all departments.

Since some patients attended casualty departments more than once, only 1837 people were responsible for the 1956 drug incidents. Excluding 286 patients who were either children or over the age of 65 from this total gives 1551 people between the ages of 15 and 65 years who attended casualty departments with a drug problem. The resident population in the same age group covered by the hospitals in the survey was 4 151 340 (South East, South West, North East, and North West Thames Regional Health Authorities, 1974) and hence this gives a general population prevalence rate of 4.5 per 1000 a year. This figure does not take into account those who are homeless or drifting in London whose numbers are not ascertainable.

Excluding incidents involving children from the total number of 1956 the number of drug-related incidents in one month was 1706; of this number 1641 (96%) were cases of self-poisoning. The remaining 65 (4%) were for other reasons, such as complications due to self-injection.

SEX

Out of the total of 1706 incidents, 1020 (60%) were caused by women and 668 (39%) by men. The sex of 18 patients (1%) was not recorded. The male : female ratio was 1 : 1.53.

AGE

The relationship between drug problems and age is shown in Table I. In both sexes about 60% of incidents were caused by people under the age of 30 years. For the men there was a peak incidence in the twenties and for the women in the late teens and early twenties. After the age of 30 years the number of drug-related problems decreased steadily for both sexes.

TABLE I
AGE AND SEX DISTRIBUTION OF PATIENTS WITH DRUG-RELATED PROBLEMS (BASED ON 1550* INCIDENTS)

Age (years)	Men		Women		Total	
	No.	%	No.	%	No.	%
Under 20	61	10	188	20	249	16
20-29	292	49	371	39	663	43
30-39	117	19	196	21	313	20
40-49	72	12	83	9	155	10
50 +	60	10	110	12	170	11
Total	602	100	948	100	1550	100

*In 156 incidents the sex or age of the patients was not recorded; therefore the distribution is based on 1550 incidents. Percentages are rounded to the nearest whole number.

DRUG USED

The particular drugs used in the 1641 self-poisoning incidents are shown in Table II. Barbiturates were the commonest drug used by men and minor tranquillizers by women. However, when barbiturates are grouped with other non-barbiturate hypnotics, the most common drug used in self-poisoning was some kind of hypnotic or 'sleeper'. Minor tranquillizers were the second commonest group of drugs followed by aspirin/codeine compounds.

POLYDRUG USE

Table III shows that in nearly 50% of all self-poisoning incidents more than one drug was used. About half of the men under the age of 35 took more than one drug, while for those between 35 and 55 there was an even greater incidence of polydrug overdose. Among the women there were more cases

TABLE II
AGENT OF SELF-POISONING

Drug	Men (No. = 668)		Women (No. = 1020)		Both Sexes (No. = 1706)	
	No.	%	No.	%	No.	%
Minor tranquillizers	159	24	292	29	455	27
Barbiturates	187	28	192	19	381	22
Aspirin/codeine	120	18	232	23	354	21
Alcohol	170	25	181	18	353	21
Non-barbiturate hypnotic	91	14	189	19	286	17
Anti-convulsants and others	64	10	125	12	190	11
Anti-depressants	56	8	128	13	185	11
Methadone	30	4	33	3	64	4
Major tranquillizers	22	3	36	4	58	3
Heroin	36	5	19	2	55	3
Amphetamine and other stimulants	15	2	16	2	31	2
Gas and toxic agents	11	2	9	1	20	1
Hallucinogens	9	1	8	1	17	1
Cocaine	1	< 1	1	< 1	2	< 1

The figures in columns 1 and 2 do not necessarily sum to that in column 3 because the sex of 18 cases was not recorded. Percentages are rounded to the nearest whole number.

TABLE III
NUMBER OF DRUGS USED FOR EACH EPISODE OF SELF-POISONING

No. of Drugs Taken	Men		Women		Total	
	No.	%	No.	%	No.	%
One	268	46	499	53	776*	51
Two	243	42	330	35	578†	38
Three	55	9	82	9	137	9
Four or more	15	3	25	3	40	3
Total	581	100	936	100	1531	100

*Includes nine cases for whom sex was not recorded.

†Includes five cases for whom sex was not recorded. Percentages are rounded to the nearest whole number.

of single drug overdose than of polydrug overdose, although over the age of 30 years there was a greater tendency to take more than one drug.

PREVIOUS OVERDOSE

It was known that in 39% of the 1706 cases with a drug-related problem there had been no overdose during the last 12 months, and that 29% had had one or more overdoses in this period. However the

number of people who had taken an overdose during the previous 12 months could be an underestimate because in some cases the casualty staff were unable to obtain this information.

INTENTION OF OVERDOSE (Table IV)

More than half of the 1641 incidents of self-poisoning were judged by casualty officers to be suicidal attempts or gestures. However 20% of the incidents in men and 10% of those in women were due to an overdose in the course of drug addiction.

TABLE IV
NATURE OF SELF-POISONING EPISODES

Nature of Self-Poisoning	Men		Women		Total	
	No.	%	No.	%	No.	%
Suicidal attempt/gesture	296	47	642	65	949	58
Overdose in the course of addiction	129	20	97	10	226	14
Accidental	67	11	98	10	165	10
Not known	138	22	157	15	301	18
Total	630	100	994	100	1641	100

Percentage totals are rounded to 100%.

OTHER REASONS FOR CASUALTY ATTENDANCE

As already noted in 65 cases out of 1706, hospital attendance was not for self-poisoning but for other problems related to drug use. In addition, some of the group who had taken an overdose also had other drug-related reasons for attending casualty. Altogether 28 (2%) made an attempt to obtain opiates, 18 (1%) tried to obtain non-opiate drugs, and 84 (5%) had infective complications of self-injection.

DEPENDENCE

Table V shows the dependence status of the patients seen in casualty. Just over half were described as not dependent, more than a quarter were rated as definitely or probably dependent, but in 21% of cases the dependence status could not be assessed. This was either because of lack of information, because of the patient's level of consciousness, or because the casualty officer had a suspicion that the patient might be dependent but was not sufficiently confident to diagnose 'probably dependent'.

TABLE V
DRUG DEPENDENT STATUS OF PATIENTS ATTENDING CASUALTY WITH A DRUG-RELATED PROBLEM

Dependency Status	Men		Women		Total	
	No.	%	No.	%	No.	%
Definitely dependent	155	23	115	11	273	16
Probably dependent	95	14	108	11	204	12
Not dependent	276	41	595	58	877	51
Not known	142	22	202	20	352	21
Total	668	100	1020	100	1706	100

Percentage totals are rounded to 100%.

AGGRESSION

In 208 incidents (12%) aggressive behaviour in casualty was recorded. In 7% of incidents the patient was verbally aggressive and in 6% both verbally and physically aggressive.

DISPOSAL

In 63% of the 1706 incidents of drug-related problems the patient was admitted to hospital, 9% left casualty against medical advice, while six patients died in casualty; 23% were discharged after receiving casualty care. The disposal in the remaining 4% was unfortunately not recorded.

BLOOD AND URINE ANALYSIS

In 83% of the 93 specimens of blood and urine which were subjected to analysis, at least one of the drugs that the patient was said to have taken was found in one or both specimens. In 13% the drug of self-poisoning was not known or it was not possible to test for it, and in 4% the reported drug was not detected in either specimen.

DISCUSSION

The results obtained suggest that self-poisoning is even more common than had previously been recorded. Excluding people who attended casualty not for an overdose but with some other drug problem, and disregarding multiple attempts by a single individual, the annual prevalence rate for self-poisoning is 430 per 100 000 population. This means that in London one in 230 of the adult population (15-65 years) takes an overdose during the course of one year. This annual prevalence rate is derived from a survey of only one month's duration, and because of seasonal variation in attempted suicide (Evans, 1967) it may not be justifiable to extrapolate results in this way.

Moreover the prevalence rate is based on London's resident population and does not take into account the drifting, the homeless, and the influx of commuters and visitors. However other workers (Kennedy, Kreitman, and Ovenstone, 1974) have shown that prevalence rates based on patients treated in hospital considerably underestimate the number of self-poisoning episodes that occur.

The magnitude of this problem has many implications. Apart from the enormous amount of human suffering, the demands made upon medical and social agencies are considerable. This is illustrated by the fact that during the course of one month there were 208 separate incidents in which the patient was aggressive in casualty, undoubtedly causing anxiety to the staff, and that in one month, in London alone, there were 1074 hospital admissions direct from casualty for drug problems. A further point of interest is that during the relatively short period of the survey 83 patients attended hospital more than once because of drug misuse and one patient attended three different hospitals a total of nine times.

The frequency with which drugs are used for self-poisoning has changed over the years. While barbiturates were used increasingly during the 1950s and 1960s (Kessel, McCulloch, and Simpson, 1963) their use has declined recently (Smith and Davison, 1971). In the survey although barbiturates were still used very commonly, particularly by men, minor tranquillizers played a particularly prominent part in self-poisoning cases. Prescribed medicines accounted for more episodes than any other drugs which can be obtained 'over the counter'. However liberal the prescription of psychotropic and hypnotic drugs has become, it seems unlikely that they are easier to acquire than aspirin and codeine compounds which can be bought from newsagents, chemists, and even self-service supermarkets in any quantity. The availability of a drug is therefore not the only factor determining its use in a self-poisoning episode.

Nearly half the patients in this survey took more than one drug in a single self-poisoning incident. This is a much higher proportion than had previously been noted (Evans, 1967; Smith and Davison, 1971), and perhaps this trend in polydrug overdose mirrors the trend by those who use drugs illicitly to use several drugs simultaneously (Mitcheson *et al.*, 1970; Javel and Inaba, 1973).

More than a quarter of the patients seen with a drug-related problem were thought to be dependent on drugs, either definitely or probably. Thus, in the month of the survey there were 477 incidents involving patients dependent on drugs. This figure is probably an underestimate since there was a large

group (21%) whose dependence status was not decided. Further evidence of drug dependence is reflected in the figures for repeated overdose: 29% of all cases had taken an overdose in the previous year and this raises the suspicion of some degree of dependence. Yet another observation indicating a high prevalence of drug dependence was that 14% of all cases of self-poisoning occurred during the course of addiction, and these were all patients who were definitely addicted. The large number of patients whose overdose was 'accidental' or of unknown cause (28%) may also include drug addicts.

The results suggest that many people who are dependent on drugs present to casualty as cases of self-poisoning. The drug overdose may be diagnosed and treated but it is important that the underlying dependence should be recognized so that appropriate treatment and after care can be initiated.

This survey has indicated the enormous number of drug problems in the population. New drugs frequently appear and one wonders how many will become drugs of dependence in the years to come. When dealing with drug use and dependency one always seems to be behind the times. A survey such as the current one provides an 'early warning' of new trends in drug use. Since it is important that the results should be made available as quickly as possible, the basic data are presented here but more detailed analysis of this and other material from the study is taking place.

It is impossible to name everyone who helped in this survey, and if I attempt to, the acknowledgements will be longer than the paper itself. However I should like to thank casualty staff in 62 hospitals who co-operated so willingly, Mr Nigel Rawson who performed the enormous task of statistical analysis with unfailing energy and good humour, my research assistants who collected the data, all the members of the Addiction Research Unit for their help, advice, and encouragement, the staff of the Maudsley Hospital laboratory for biochemical analysis, Dr David Robinson for reading the manuscript and for his constructive criticisms, and most of all I must thank Dr Griffith Edwards for his invaluable help and guidance throughout the months of this study from conception to completion. The BMA ethical committee gave me useful advice in conducting this survey. Mrs Barbara Skivington gave expert secretarial assistance.

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