Reports from various centres have shown that drug overdose is an increasing medical problem (Ghodse, 1977, Holding et al 1977). The number of patients presenting at the Casualty Department of the Royal Victoria Hospital with drug overdose has been recorded over the past four years for the information of the Northern Ireland Liaison Committee on the Misuse of Drugs. The present paper records this information and compares the experience of the hospital with published records from London and Edinburgh.

RESULTS

The number of overdoses each year has increased over the period under review (Table 1). The monthly figures were also determined but no definite pattern throughout the year could be ascertained. The annual number of new attendances

| Year | TOTAL | Males | Females | Sex Unknown | Ratio F: M | Total New Attendance |
|------|-------|-------|---------|-------------|------------|---------------------|
| 1973 | 385   | 128 (33.3) | 247 (64.2) | 10 | 1.93 | 43,716 |
| 1974 | 428   | 153 (35.8) | 257 (60.0) | 18 | 1.68 | 43,090 |
| 1975 | 464   | 156 (33.6) | 300 (64.7) | 8 | 1.92 | 42,858 |
| 1976 | 459   | 173 (37.7) | 278 (60.6) | 8 | 1.61 | 41,938 |
at the Accident and Emergency Department remained approximately the same.
The overall female: male ratio can be seen to remain approximately the same throughout the four years. The monthly numbers of females and males showed no definite pattern of variation, nor was there any definite pattern in sex ratio in different age groups. In general females were approximately 60 per cent of the total.

The number of overdoses occurring in each decade has been reviewed. Patients under the age of 13 are not seen at this Department. The number of overdoses increased very rapidly from the 13-15 age group to a high level in the 15-19 age group. The first three years of the survey showed a peak incidence in this 15-19 group whereas the fourth year (1976) showed a peak in the 20-24 age group. The fall away from the peak was fairly steady in all years, reaching very low levels in the sixth decade.

The drugs taken were classified into 5 groups (Table II). Group 1, the antidepressants, forms a small percentage but this has doubled over the period. Group 2, the non-barbiturate tranquiliser/hypnotics (in particular the benzodiazepine compounds) forms the major section of the drugs taken as overdoses.

**TABLE II**

**TYPES OF DRUGS TAKEN IN OVERDOSAGE**

The percentage figures in brackets are percentage values of that drug out of the total number of known drugs taken in that year. They are not percentages of patients taking that drug. The figures were calculated in this way because of the large number of patients who took more than one drug in their overdose.

|                  | 1973    | 1974    | 1975    | 1976    |
|------------------|---------|---------|---------|---------|
| 1. Antidepressants| 20 (4.8)| 40 (9.2)| 45 (8.9)| 44 (7.7)|
| 2. Non-barbiturate| 189 (45.5)| 211 (48.6)| 290 (56.2)| 283 (49.8)|
|                  |         |         |         |         |
| Major and Minor tranquilliser/hypnotics |         |         |         |         |
| 3. Barbiturates  | 64 (15.4)| 52 (12.0)| 41 (8.1)| 51 (8.9)|
| 4. Analgesics    | 58 (13.9)| 48 (11.1)| 62 (12.3)| 88 (17.9)|
| 5. Miscellaneous | 84 (20.2)| 83 (19.1)| 69 (13.8)| 104 (18.3)|
| Total Known drugs| 415 (100)| 434 (100)| 507 (100)| 570 (100)|

The benzodiazapines expressed as percentages of the total, totalled 40.2 in 1973, 42.4 in 1974, 50.1 in 1975 and 45.3 in 1976. They have therefore remained fairly constant over the four year period. Group 3, the barbiturates, shows conversely a decrease over the period, falling from 15.4 per cent in 1973 to 8.9 per cent in 1976. Group 4, the analgesics, have increased over the four years. When the analgesics were analysed it was found that salicylates had decreased from 5.5 per cent (1973) to 4.7 per cent (1976), paracetamol had remained approximately the same at 3.4 per cent in 1973 and 3.0 per cent in 1976, but dextropropoxyphene...
and paracetamol in combination (Distalgesic) had increased markedly from 0.7 per cent in 1973 to 5.0 per cent in 1976. Miscellaneous drugs and substances remained approximately the same at 20.2 per cent (1973) and 18.3 per cent (1976).

The number of patients who took a combination of drugs or a combination of drug(s) with alcohol was calculated from the total number of patient overdoses in each year (Table III). Both types of combination overdoses have

| TABLE III |
|-----------|
| DRUG/ALCOHOL COMBINATIONS |
|  | 1973  | 1974  | 1975  | 1976  |
| Total    | 385   | 428   | 464   | 459   |
| Drug combination | 70 (18.0) | 72 (17.0) | 89 (19.0) | 120 (26.0) |
| Combination with alcohol | 78 (20.0) | 91 (21.0) | 154 (33.0) | 151 (33.0) |

increased. The drug combinations have increased by approximately one half from 1973 to 1976 but overdoses taken in conjunction with alcohol have increased even more from 20.0 per cent in 1973 to 33.0 per cent in 1976.

Some estimation of the number of patients who had taken a previous overdose was attempted. From 1973 to 1975 this varied from 5 to 10 per cent: in 1976 it was 14 per cent.

An attempt was also made to classify the overdoses into (a) suicidal, (b) accidental or (c) those which were intentional but which did not intend suicide. The percentage in the intended suicidal group were 6.0 in 1973, 6.0 in 1974, 9.0 in 1975, 12.0 in 1976. Accidental overdose percentages were 2.0 in 1973, 1.0 in 1974, 2.0 in 1975 and 4.0 in 1976. The figures may be inaccurate: the groups tend to overlap and the patients tend to be confused in their motives. Drug abuse with narcotic drugs was a very small group, approximately 1-2 per cent. Therefore more than 90 per cent of the patients analysed in this study would fall into the third group.

‘DISPOSAL’ OF PATIENTS FROM ACCIDENT AND EMERGENCY UNIT

The majority of ‘overdose’ patients are admitted to the observation ward. This indicates the probability of discharge from hospital the next day. However, should the patient’s condition necessitate it the patient may be admitted to a general medical ward or psychiatric ward the next day. Table IV only shows disposal from the Accident and Emergency Department and does not indicate subsequent disposal of the patient from the observation ward.

The number of patients admitted to the observation ward rose from 173 (44.9 per cent) in 1973 to 262 (57.1 per cent) in 1976, whereas the number of patients going home (a small number, approximately two per month, leave without consent) fell from 71 (18.4 per cent) in 1973 to 59 (12.9 per cent) in 1976.
TABLE IV

Initial disposal (during the first twenty four hours) of Overdose Patients presenting at the Accident and Emergency Unit.

Numbers involved in brackets are percentages)

| DISPOSAL                | 1973    | 1974    | 1975    | 1976    |
|-------------------------|---------|---------|---------|---------|
| Home                    | 71 (18.4) | 49 (11.5) | 58 (12.5) | 59 (12.9) |
| Observation Ward        | 173 (44.9) | 178 (41.6) | 214 (45.3) | 262 (57.1) |
| Medical Ward            | 104 (27.0) | 136 (31.8) | 145 (31.6) | 103 (22.4) |
| Psychiatric Unit        | 5 (1.3)  | 14 (3.3)  | 15 (3.2)  | 5 (1.1)   |
| Intensive Care Unit     | 15 (3.9)  | 32 (7.8)  | 19 (4.1)  | 20 (4.4)  |
| Unknown                 | 16 (4.2)  | 20 (4.7)  | 12 (2.6)  | 10 (2.2)  |
| Died in Accident and    | 1 (0.26)  | —        | 1 (0.2)   | —        |
| Emergency Unit          |         |         |         |         |
| TOTAL                   | 385     | 429     | 464     | 459     |

Patients admitted to a medical ward or Psychiatric unit increased from 1973 to 1974 and thereafter fell to reach a level below the 1973 level in 1976. The patients admitted to intensive care increased sharply from 1973 to 1974 (3.9 per cent to 7.8 per cent) but, although the numbers did fall the figure in 1976 is maintained at 4.4 per cent. ‘Intensive Care’ includes respiratory intensive care for depressed respiration, cardiac monitoring for possible dysrhythmias (for example in tricyclic antidepressant overdose), or specialised care in a renal unit (for example in paraquat poisoning). The number of deaths indicates only the number dying actually in the Accident and Emergency Department.

DISCUSSION

Overdoses are common in the Casualty Department and becoming slightly more common. The figures approximate 1.25 per day in 1976 with an average female: male (F:M) ratio of 1.8:1. These results support findings of other workers in Belfast (Lyons and Bindal, 1977) in that the majority of patients who take overdoses are young women. The greater female: male ratio tended to be in the younger age groups. Previous studies have shown an even higher proportion of female patients and Ghodse (1977) showed a F:M ratio of 2.2:1 in London.

The peak age of overdoses was in the 15-19 group in 1973, 1974 and 1975 and in the 20-24 group in 1976. This confirms other studies which show a peak in the younger age group although the 15-19 years peak is younger than most. Although the number of overdoses has increased the number of patients actually intending suicide remains low. Recorded suicides in Northern Ireland were reduced by half from 1964 to 1970 (Lyons, H.A., 1972).
The commonest type of drug taken in overdose in Belfast remains the minor non-barbiturate tranquilizer or hypnotic, the main group being the benzodiazepines. Barbiturates and salicylates have fallen, paracetamol maintains a low percentage, while "Distalgesic" has increased markedly in incidence.

Drugs taken as overdoses are those which are available. Hypnotics are commonly prescribed and are therefore easily available. Elmes et al, (1976) found an increase in the prescribing of hypnotics in Northern Ireland from 30 daily doses per 1000 persons on doctors' lists per day in 1966 to 44.3 daily doses per day in 1974. Despite this there was a reduction in the prescribing of barbiturates from 80 to 45 per cent of all hypnotic prescribing. This decrease in availability barbiturates has undoubtedly been the cause of the reduction of incidence of barbiturates overdosing.

Both drug combinations and combinations of drug (or drugs) with alcohol have increased greatly in frequency over the four year period. Drug combinations increased from 18 to 26 per cent, but drug and alcohol combinations increased from 20 to 33 per cent. The reasons for this may be that more alcohol is being consumed by the population in general, and more is being consumed by the younger age groups. In 1973 the average weekly household expenditure on alcohol was £1.22 (beer 67p, wines/spirits 38p, not defined 17p) and in 1974 £1.93p (beer 83p wines/spirits 55p, not defined 54p). This was a 58 per cent overall increase in expenditure. The price of beer in 1973 was 14.5 per bottle and in 1974 18.0p per bottle (24 per cent increase). Spirits (½ glass) cost 22p in 1973 and 24p in 1974 (9 per cent increase). The overall increase in the price of alcoholic drinks during this period was thus 15 per cent. The increase in expenditure is therefore greatly in excess of the increase in prices and must reflect a true increase in alcoholic consumption per household. One cause of increased consumption may be the fact that the price of alcoholic beverages relative to other food has decreased recently. It has been estimated that the number of minutes work required for a male manual worker to pay for a large loaf (1½ pounds), 1 pint of beer and a bottle of whiskey have changed from 9, 23 and 659 respectively in 1950 to 11, 12 and 209 in 1976 (Spring and Buss, 1977). Increased alcoholic consumption may be reflected in the driving offences involving alcohol or drugs and these have increased steadily, 980 in Northern Ireland in 1974, 1210 in 1975 (personal communication from Dr. R. B. Irwin).

If there is an increase in alcoholic consumption in the population as a whole, there will be an increase in the younger age group. But there has probably been a relatively greater increase in the consumption of alcohol in the younger age groups. Advertising is aimed more and more at this age group, which is more susceptible to pressures both from advertising and social popularity. The same type of individual tends to abuse alcohol and drugs. Alcohol is itself a drug and the same effect can be had from both sources, individually or in combination.
SUMMARY

Drug overdoses seen at the Accident and Emergency Department, Royal Victoria Hospital during the years 1973-1976 were analysed. The total number of overdoses increased from 385 in 1973 to 459 in 1976, the ratio of females to males being approximately 2:1 and the peak incidence being in the 15-24 age range. The drugs taken were mainly tranquilliser/hypnotics, with benzodiazapines being by far the most common. A fall in incidence of barbiturate overdose was noted but a rise in dosage by dextropropoxyphene with paracetamol (Distalgesic). Drug combinations increased from 18 per cent to 26 per cent over the four years, and combinations with alcohol increased even more from 20 per cent to 33 per cent. Disposal of patients from the accident and emergency department was analysed.

ACKNOWLEDGEMENTS

I am grateful to the staff of the Accident and Emergency Department for assistance in this study and in particular to Mr. W. Rutherford and Dr. P. G. Nelson. Mrs. Carol McMeekin provided the data of alcohol expenditure from data supplied by the Northern Ireland Office. Prices of alcoholic drinks were supplied by the Belfast and Ulster Licensed Vintners' Association. Dr. R. B. Irwin provided helpful information.

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