

Use of psychotropic medication in an adolescent in-patient unit

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In January 1991, the adolescent in-patient unit in Leeds became a seven-day residential unit. This study set out to review the first five years' intake of patients, with regard to basic demographic details, diagnoses, use of regularly prescribed psychotropic medication and episode length. Using clinical case notes as the primary data source, we reviewed 154 completed patient episodes, representing 128 patients. The study revealed that about a third of patients had been prescribed regular psychotropic medication, and that this group had significantly longer episodes and were significantly more likely to return to the unit than those for whom there had not been regularly prescribed medication.

A paper in the *Psychiatric Bulletin* (Lowe *et al.* 1996) highlighted the need for review of clinical practice on similar units. In January 1991, the adolescent in-patient unit in Leeds became a seven-day residential unit. The change from being a five-day unit was made in an attempt to respond to the increased demands for the admission of psychiatrically ill adolescents coupled with the drive away from the admission of young people under 16 to adult wards. With this change of philosophy came an appreciable increase in the use of psychotropic medication compared with only very occasional use prior to 1991. This study set out to examine how extensively psychotropic medication has been used, to identify any patterns of prescribing and provide an overall summary of the five-year in-patient population.

The study

A list of all patients over the five years was obtained. From this, staff who had worked on the unit over that period were able to identify three groups: those who had definitely been prescribed psychotropic medication; those who had definitely not received drugs for a psychiatric condition; and those for whom there was doubt that medication was prescribed. Only medication prescribed on a regular basis was considered. For the group in which there was some doubt, the case notes were examined in order to determine which category they belonged to. Any

case notes not available on the hospital site were requested from other locations.

Having allocated patients to one of two groups, the case notes for those who have received medication were examined. From the drug prescription cards, we noted medication prescribed, initial and maximum doses used, duration of use and whether it was discontinued during the episode. Medication was identified as listed in the central nervous system chapter of the *British National Formulary* (Number 30, 1995).

Findings

There were 154 completed episodes over the five-year period, representing 128 patients. These were initially classified as 59 patients having had no prescribed psychotropic medication; 40 patients definitely having had medication; and 29 being unclear. Case notes for the third group were investigated and patients classified, resulting in totals of 41 patients receiving psychotropic medication and 83 not. There were four patients for whom case notes could not be obtained, and these patients were omitted from the study group.

There were 66 females and 58 males in the study group. The males were more likely to have been prescribed psychotropic medicine, with 24 males (41%) and 17 females (25%), but the trend was just outside the 5% significance level ($P=0.065$). The ages at first admission ranged from 11 years 7 months to 17 years 8 months, with a mean of 14 years, 11 months. The age distributions of the two groups differed significantly (Mann-Whitney test, $P<0.01$), with the group prescribed psychotropics having a mean age of 15 years 8 months and the other group having a mean of 14 years 8 months.

The average length of the first episode was 94 days, with a significant difference in the distributions for the two groups (Mann-Whitney test, $P<0.001$). The group prescribed psychotropics had a mean first-episode length of 140 days compared with a mean of 72 days for the other group. Patients who had been prescribed psychotropic medication were also more likely to

Table 1. Breakdown of diagnosis

ICD-9 diagnosis	n
Psychotic	
Psychosis originating in childhood	8
Affective psychosis	9
Other organic and non-organic psychoses	22
Total	39
Neurotic/behavioural	
Conduct disorder	16
Emotional disorder	15
Mixed disorder of conduct and emotions	11
Anorexia nervosa	5
Adjustment reaction	8
Other neurotic or personality disorders	14
No psychiatric disorder	6
Total	75

return to the unit ($P \ll 0.001$), although the period studied was too recent to be certain that any patient would not subsequently return. There were 19 patients who completed more than one episode over the period; 14 from the group who took medication (34%) and five from the other group (6%). The maximum number of episodes for an individual was 4; two patients in the prescribed group completed this number of episodes in the period.

The mean time spent on the unit in total (multiple episodes combined) was 114 days, with 20% of patients spending less than one month in total. The 41 patients identified as having been prescribed regular psychotropic medication represented 33% of the five-year population. In terms of the number of days of in-patient stay, this group accounted for 54% of the unit's workload.

Of the 128 patients admitted to the unit, ICD-9 diagnoses (World Health Organization, 1978) were recorded for 113. The 15 patients for whom no clear diagnosis was available tended to be those who were short duration crisis admissions. A total of 39 patients were diagnosed with psychotic illnesses, versus 75 with neurotic/behavioural illnesses. A breakdown of diagnoses is given in Table 1.

Use of psychotropic medication

Of the 41 patients for whom medication was regularly prescribed, 36 regularly received neuroleptics during their stay and five regularly received antidepressants. In addition lithium was prescribed to seven of the group. Depot preparations were administered to five patients. Chlorpromazine was the most commonly prescribed neuroleptic, almost double the frequency of prescription of the next most popular agent, haloperidol. A summary of neuroleptic drug use is shown in Table 2. Antidepressants were not extensively used.

Antidepressants were prescribed to five patients over six episodes (dothiepin three times, fluoxetine twice, paroxetine once). Clomipramine was prescribed on a regular basis for two patients with obsessive-compulsive disorder.

Comment

A third of patients admitted received regular prescriptions of psychotropic medication, and this was higher than anecdotally expected. Moreover, this group accounted for over half of the workload. This has important implications for resources, both financial and staffing. There was

Table 2. Summary of the use of regularly prescribed neuroleptics

Neuroleptic medication	Number of patients prescribed to as first-line	Number of patients discharged on neuroleptic medication	Number of patients prescribed drug at any time on unit	Mean initial dose (range of initial dose)	Mean maximum dose (range of maximum dose)
Chlorpromazine	21	9	27	124 mg (50-450 mg)	244 mg (50-900 mg)
Haloperidol	7	8	14	10 mg (0.5-40 mg)	18.1 mg (5-65 mg)
Thioridazine	4	3	8	98.8 mg (10-200 mg)	141.2 mg (10-300 mg)
Trifluoperazine	2	2	5	9.8 mg (2-25 mg)	17.8 mg (4-45 mg)
Zuclopenthixol	1	2	4	25 mg (19-40 mg)	93.5 mg (44-150 mg)
Flupenthixol	0	1	3	12 mg (9-15 mg)	12 mg (9-15 mg)
Sulpiride	2	3	5	560 mg (400-1000 mg)	1280 mg (400-2000 mg)
Risperidone	0	0	1	6 mg	8 mg
Flupenthixol (depot)	0	3	3	33.3 mg (20-40 mg)	46.6 mg (40-60 mg)
Haloperidol (depot)	1	1	2	25 mg	200 mg
Lithium	0	9	9	355.6 mg (200-1000 mg)	

no apparent increase in the annual proportions of patients requiring medication.

Patients in the prescribed group were more likely to have longer admissions. Contributory factors included period of assessment of whether medication was effective, changes of agent and non-compliance due to family reluctance to consent or as the result of unpleasant side-effects. Patients in the group were far more likely to return for a subsequent episode, which is in keeping with the nature of psychotic illness. The average one-year age difference, and the increased proportion of males are consistent with established knowledge of the onset of psychotic illness.

During the design and implementation of the study, we were constrained by several factors which limited the scope of the survey. A few sets of case notes were unavailable because the patient's care had been transferred outside of the district. Of those case notes which were available, prescription cards were not always present or complete. A more fundamental problem was achieving a useful quantification of the use of medication. There was a great variation in the dosages, lengths of prescription, combinations of agents and changes from one agent to another. Where changes were made, it was not always clear why this had been done.

Within the limited scope of this survey, considerable interest was generated. Awareness was raised about the need for accurate note keeping, and two initiatives started: the explicit

and systematic recording of medication changes, and the further development of multi-language drug information for patients and carers.

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Optimising neuroleptic treatment for psychotic illness

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The release of the antipsychotic agents risperidone, sertindole and olanzapine forces difficult choices upon clinicians. The new compounds are better tolerated than neuroleptics, expensive and their long-term side-effects unknown. These choices can be made easier by the dose and side-effect minimisation procedure set out below, which aims to produce the greatest benefit and least harm from conventional neuroleptics.

Standard reviews of dosages recommended from research into effectiveness are all flawed from a clinician's viewpoint as the judgments are population based, usually focused on one drug and do not address the wide differences between individuals' sensitivity to neuroleptics (e.g. haloperidol; Hilton *et al*, 1996). Similarly, psychiatric textbooks and the consensus statement of the