rated these as unsatisfactory while the 1980 College audit found little cause for criticism with either, findings that were confirmed in the 1991 audit (Pippard, 1992a, 1992b). These differences probably reflect each speciality having its own agenda of requirements. As psychiatrists are not qualified to judge anaesthetic provisions, we suggest that future audits of ECT clinics would benefit from having an anaesthetist and a psychiatrist making joint ratings.

Closer liaison between psychiatrists and anaesthetists is needed to rectify the deficits highlighted in this survey. In particular each ECT clinic should have a designated consultant from each speciality taking an active interest in standards, teaching and the development of joint policies.

References

FREEMAN, C., CRAMMER, J. L., DEAKIN, J. F. W., MCCLELLAND, R. *et al* (1987) *The Practical Administration of Electroconvulsive Therapy (ECT)*. London: Gaskell (Royal College of Psychiatrists).

HESHE, J. & ROEDER, E. (1976) Electroconvulsive therapy in Denmark. *British Journal of Psychiatry*, **128**, 241–245.

PIPPARD, J. & ELLAM, L. (1981) *Electroconvulsive Treatment in Great Britian*, 1980. London: Gaskell (Royal College of Psychiatrists).

—— (1992a) Auditing the administration of ECT. *Psychiatric Bulletin*, **16**, 59–62.

—— (1992b) Audit of electroconvulsive treatment in two National Health Service Regions. *British Journal of Psychiatry*, **160**, 621–637.

Psychiatric Bulletin (1993), **17**, 657–660

Audit

Neuroleptic usage in a community mental handicap unit

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Increasing concern has been expressed in the psychiatric literature and general press about the use of neuroleptic medication for the treatment of behaviour disturbance in the mentally handicapped (Buck & Sprague, 1989). The issue was highlighted in a television documentary (Public Eye, BBC2, 1 May 1992) which reported a number of cases of tardive dyskinesia in mentally handicapped people who had been treated with neuroleptics. The programme, although taking a characteristically slanted view, will have made an impression on relatives, patients and the general public. It was also intimated that British families may be preparing to test the legal grounds for prescribing these drugs to the mentally handicapped, particularly where there is no formal psychiatric diagnosis.

Previous studies from the UK, USA and Europe have shown that 40–60% of mentally handicapped people in institutions are receiving regular neuroleptic medication (Sachdev, 1991), yet the majority of these prescriptions are not being given for the treatment of mental illness. Prescribing rates are often influenced by factors other than the presence of psychiatric disorder, such as local drug review policies, the amount of day therapy on offer, and staff to patient ratios. In the presence of a regular review process prescribing rates drop to about 20%.

There are a number of reasons for concern about prescribing practices: there is no good research demonstrating the benefits of neuroleptics in the management of behavioural disturbance; the high doses that are often used have been discounted even in the treatment of acute psychosis; neuroleptic drugs may have adverse effects on cognitive development; and there is a high incidence of drug-induced movement disorders in this group, with up to 34% of treated patients showing signs of tardive dyskinesia (Sachdev, 1991).

TABLE I
Audit indicators for the prescription of neuroleptic medication

1.	The reason for prescription of the medication should be recorded in the case notes.	1 point
2.	The patients relatives, as far as possible, should be involved in the decision to use neuroleptics as long term treatment for behavioural disturbance.	1 point
3.	A fact sheet on neuroleptic medication (Similar to the Royal College factsheets) should be provided for relatives, and its receipt be recorded in the case-notes.	1 point
4.	Medication should be reviewed by a sub-consultant grade doctor at least every 3 months.	Prescription altered in past 3/12 = 1 point Review recorded in the notes in past 3/12 = 1 point
5.	Medication should be reviewed by the consultant at yearly intervals in consultation with the multidisciplinary team. As part of this review an assessment of risks and benefits of treatment should be recorded, as well as the patient's response to treatment.	Consultant review = 1 point Risk/benefit assessment recorded = 1 point Response to medication recorded = 1 point Multidisciplinary team opinion recorded = 1 point
6.	The patient's opinion and views on medication and consent to treatment should be sought at least at yearly intervals. Consent to treatment is compulsory every 3 months if the patient is detained under the Mental Health Act 1983.	1 point

In the USA an increasing number of lawsuits is beginning to assert the rights of the mentally handicapped, influencing state policies and applying statute to reduce the use of this type of medication (Clarke *et al*, 1990). There is yet to be a test case in British law.

As part of an ongoing audit programme it was decided to investigate the use of neuroleptics in our population and to develop a set of audit indicators with the aim of improving clinical practice, reducing the use of neuroleptics and rationalising our prescribing policies.

Unlike larger institutions where other studies have been carried out, Kingsbury is a small community hospital with 60 beds; it offers a supra-district admission and assessment service as well as rehabilitation and long-stay places for the local area. Psychiatric staff consists of a six session part-time consultant and a registrar from the regional psychiatry training scheme. Medical cover is provided by a rota of local general practitioners who visit the unit daily and provide for the primary care needs of the population and 24 hour on-call consultant psychiatrist cover. There is also a community pharmacist who visits once or twice each week.

The study

After consultation and discussion with other colleagues, a set of audit indicators were drawn up (Table I). The importance of the recording of these actions in the case-notes was stressed and a scoring system was devised that gave a total score of 10 (100%) if all the indicators were complied with. At the time of the audit a patient factsheet was still in preparation and hence the maximum score that we could achieve for any case was 9 (90%).

A data collection sheet was devised that recorded the audit score, doses of all neuroleptic and anti-muscarinic medication and up to two main reasons for the prescription. The information was obtained from medication charts, the ward staff and medical case-notes. The doses of the neuroleptics were converted in to chlorpromazine equivalent (CPZE) doses (Davis, 1976) and expressed in milligrams per day for regular medication and milligrams per month for 'as required' medication.

The reasons for prescribing were divided into two groups: formal mental illness and behaviour disturbance. Behaviour disturbance was further sub-divided into physical assaults on others, verbal assaults on others, self injury, property destruction, and tantrums. A further category of 'other' was added for which a written explanation had to be given.

The amount of information collected was necessarily limited to allow a single doctor (RJH) to complete the audit in reasonable time and for it to be easily repeatable on future occasions. A single week was chosen for the audit and approximately 4.5 hours were required to assess the treatment charts and notes of the patients involved, and a further six hours for collating and analysing the data collected.

Findings

During the week of the audit there were 60 patients resident in the hospital. The mean age of the patients was 36 years (median 30 years, range 22–86 years). Neuroleptic drugs were prescribed in some form for 32 patients (53%), 20 males and 11 females. Of the 32 patients, 11 (5 males and 6 females; mean age 35 years) were considered to be longer stay patients and 21 (14 males and 7 females; mean age 37 years) as shorter stay, where eventual placement outside the hospital was envisaged.

Regular medication was being prescribed in 22 cases (37%); of these four cases were 'longer' stay and 18 cases were 'shorter' stay. The mean daily CPZE dose was 504 mg/day (median 270 mg/day, range 60–2910 mg/day). The drugs being prescribed were chlorpromazine (five cases), flupenthixol depot (five cases), zuclopenthixol depot (four cases), trifluoperazine (four cases), thioridazine (three cases), haloperidol (three cases), droperidol (one case) and sulpiride (one case). In four cases, all in the 'shorter' stay group, a combination of two different regular neuroleptics (oral and depot) were being prescribed.

There were 25 prescriptions for 'as required' medication. In only 11 of these cases had any been administered in the preceding month. The mean CPZE dose received was 740 mg/month (median 700 mg/month, range 150–1730 mg/month). The drugs being prescribed were chlorpromazine (15 prescriptions, seven administered), haloperidol (three prescriptions, none administered), droperidol (two prescriptions, both administered), thioridazine (five prescriptions, three administered) and metoclopramide (one prescription, not administered). In ten cases there was no regular neuroleptic prescribed, five of these were for use as sedation before venepuncture and one patient was prescribed metoclopramide for travel sickness. In 15 cases the 'as required' prescription was in addition to regular medication, in seven of these cases it was the same drug as given regularly, in four cases it was a different drug, in a further four cases it was the same as one of two neuroleptics given regularly, and in one case it accounted for a third neuroleptic being given.

Antimuscarinics were prescribed to 18 patients, 81% of those receiving regular neuroleptics. The drugs prescribed were procyclidine and orphenadrine. Regular procyclidine was prescribed for 15 patients, mean dose 12.6 mg/day (median 15 mg/day, range 10–20 mg/day), four patients were prescribed 'as required' procyclidine, in two cases this was in addition to regular procyclidine. The mean 'as required' dose was 8.75 mg/month (median 10 mg/month, range 10–15 mg/month). Orphenadrine was prescribed for one patient only who had not tolerated procyclidine.

Mental illness was the reason for prescription of medication in five cases (15%), all of whom were receiving regular medication. Behavioural disturbance accounted for 21 cases (66%) which, allowing for up to two reasons for each case was broken down into physical assaults on others – 11 cases, verbal assaults on others – nine cases, self injury – seven cases, property destruction – four cases, and tantrums – one case. In the other six cases (18%) the reasons were venepuncture – five cases, and travel sickness – one case.

The audit indicators received a mean score of 6 or 60% of the total (median 60%, range 10%–90%). Long-stay patients received an average score of only 41%, while shorter stay patients scored a mean of 70%. Expressing the score for each individual audit indicator as a percentage, the lowest scoring was indicator number 6, the obtaining of the views of the patient which scored only 26%. Other individual indicator scores were record of reasons for prescription – 80%, involvement of relatives – 42%, three monthly review – 75%, and consultant and multidisciplinary review – 71%.

Comment

The results of our audit demonstrate that our rates of prescribing for neuroleptics are in line with previously published studies. Our median daily dosage is, however, considerably lower than those in other papers. Only one patient was receiving a CPZE dose of over 1000 mg/day, and this was the same patient who was prescribed three neuroleptics; in this case the diagnosis was severe behaviour disturbance and regular reviews of medication and attempts at rationalisation were being recorded. Our rates of regular prescribing for anti-muscarinics were very high, 81% of those on neuroleptics, whereas our 'as required' rates were very low, with a low uptake suggesting that we are prescribing an excess of this type of medication on a regular basis. Prolonged prescribing of anti-muscarinics has been shown to be unnecessary and may predispose patients to tardive dyskinesia (Fan, 1991). An audit score of 70% was felt to be acceptable in the shorter stay patients, although low scores on certain individual indicators highlighted the need for more discussion and education of relatives, and the need to routinely consider and record voluntary patients' views of medication.

A score of only 41% for long-stay patients highlighted a deficiency in the service we were providing and demonstrated a need for regular multidisciplinary review of medication in this patient group. Setting a rather under-optimistic target of 70% for the whole population still left us with 48% failing to reach this grade.

We found this audit to be useful and beneficial and it has led to improved monitoring and review of

patients' medication, greater involvement of relatives and greater opportunity for patients to express their views, a principle enshrined in the Citizens Charter.

In a small unit, with a minimal level of medical staffing, and limited medical time, it is important that audit activity is carefully designed and planned. For a trainee on a six month placement it should be possible to complete the audit as part of other clinical duties, present the results and see the changes in practice that occurred. This was the case with our audit. It is planned that it will be repeated by future trainees, completing the audit cycle.

Many studies have now been published that demonstrate a remarkable consistency in the rates of prescribing of neuroleptics. Regular medical review and adherence to systematic guidelines on prescribing has been shown to be the main factor in reducing prescription rates. We would recommend a combination of audit indicator guidelines, together with the basic principles of avoiding polypharmacy and reducing or discontinuing any medication that is not doing some good. This is likely to be the best way to elevate clinical practice, improve patient satisfaction, reduce medication and hence lower the risks of long-term side effects.

One useful strategy is to use neuroleptic medications for control of unacceptable or maladaptive behaviours solely as an integral part of the patient's overall treatment plan; ideally resorting to medication after psychological and social alternatives have failed, and then only in conjunction with a formal behavioural programme. It is also important to recognise that the attitudes and beliefs of individual team members will contribute to the success or failure of any approach.

References

BUCK, J. A. & SPRAGUE, R. L. (1989) Psychotropic medication of mentally retarded residents in long-term care facilities. *American Journal on Mental Retardation*, **93**, 618–623.

CLARKE, D. J., KELLEY, S., THINN, K. *et al* (1990) Psychotropic drugs and mental retardation: I. Disabilities and prescriptions for behaviour and for epilepsy in three residential settings. *Journal of Mental Deficiency Research* **34**, 385–395.

DAVIS, J. M. (1976) Comparative doses and costs of antipsychotic medication. *Archives of General Psychiatry*, **33**, 858–861.

FAN, T. W. (1991) Prescribing in mental handicap hospitals. *British Journal of Psychiatry*, **158**, 282–292.

SACHDEV, P. S. (1991) Psychoactive drug use in an institution for intellectually handicapped persons. *The Medical Journal of Australia*, **155**, 75–79.

A full list of references is available on request to the authors.