Antipsychotic medication in learning disability

Impact of audit and evidence-based medicine on quality of prescribing in a community assessment treatment unit

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Aims and method Antipsychotic medication, an effective treatment modality in the management of psychiatric/behaviour disorders in people with learning disability, is often criticised because of poor clinical practice. Rational and judicious use, subject to evidence-based guidelines and systematic monitoring, is mandatory. A five-year clinical audit programme on the quality of prescribing for this clientele was undertaken.

Results Significant quality improvement with minimal resource consumption was demonstrated.

Clinical implications Clinical audit facilitates high-quality prescribing: pragmatic and economic, it can easily be integrated into routine clinical practice.

Well-documented evidence of the benefits of antipsychotic medication for mental and/or behaviour disorder in people with learning disability (Sovner, 1989) has been tarnished by increasing concerns over poor clinical practice. Studies have consistently highlighted the relatively high, and sometimes indiscriminate, use of antipsychotic medication in this population (Wressell *et al*, 1990; Sachdev, 1991). Gualtieri (1990) described the increased incidence of tardive dyskinesia and tardive akathisia resulting from antipsychotic medication within this group. Complex issues impinging on pharmacotherapeutic management include: problems with diagnostic clarity, greater vulnerability to side-effects and informed consent. Consumer and media pressure demand careful scrutiny of prescribing practice and have dramatically increased the likelihood of litigation.

Deb & Fraser (1994), in a review article, advocated a balanced and rational approach to the use of antipsychotic medication in learning disability. A combination of clinical guidelines (Einfeld, 1991) and mandatory monitoring of the treatment package with relation to clinical response was proposed. Gravestock (1994) commented on the need to develop effective, simple and practicable medication monitoring systems as an essential part of clinical audit quality-assurance activity. Audit contributes significantly to implementing clinical standards, guidelines and evidence-based medicine in routine care, making effective clinical practice available to patients.

In 1991 a rolling programme of auditing antipsychotic medication was introduced at Kingsbury Community Hospital. Standards were set within the context of existing scientific evidence following literature searches and consultation with colleagues (Harvey & Cooray, 1993). The process has been repeated biennially thereafter, standards revised and changes implemented as appropriate. Five years into the programme it is timely to evaluate outcomes in terms of practicability and improving the quality of prescribing within the unit.

The study

Kingsbury Community Hospital is a 44-bed National Health Service (NHS) specialist resource for people with learning disability in north-west London. There are 16 beds within the assessment and treatment service, 28 long-stay residents and a 70-place day care unit. The patient profile has changed radically in the past four years resulting in a steep increase in the number of individuals with severe mental illness, significant behaviour disorder and detained (Mental Health Act 1983) status.

Psychiatric staff consist of a consultant, with responsibility for the catchment area (Brent), and a registrar from the St Mary's Paddington Rotational Scheme. Primary health care is provided by a local group practice. A community pharmacist visits twice weekly, with 24-hour cover from the Trust pharmacy. Medication reviews by the consultant psychiatrist take place during multi-disciplinary team meetings with consumer participation and these are integral to the overall management plan. The process includes rationalisation of the medication within

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the context of bio/psycho/social aspects, clinical response, monitoring for adverse effects and investigations as appropriate (Holbrook *et al*, 1991; Tohen *et al*, 1995; Paton & Beer, 1996).

Detailed consideration is given to establishing an optimum medication regime and choice of alternatives to antipsychotic drugs, particularly where the diagnosis of mental disorder is unclear and changes introduced as appropriate. Consultant review intervals may not exceed the maximum of one year.

In 1992, 10 audit indicators, each scoring one point, were drawn up to reflect standards established. These evaluate prescribing practise in the three key areas of concern:

(a) Rationale – diagnostic clarity as a prelude to prescribing (ICD–10 (World Health Organization, 1992)/DSM–IV (American Psychiatric Association, 1994); operational criteria, Psychopathology Instrument for Mentally Retarded Adults (PIMRA; Matson *et al*, 1984) and the Diagnostic Assessment for the Severely Handicapped (DASH; Matson *et al*, 1991)).
(b) Risk/benefit assessment with consumer/multi-disciplinary participation.
(c) Consent issues.

The maximum achievable is 10 (100%), constituting the audit indicator overall score. This process enables qualitative and quantitative measurement of current performance against the agreed standards. The standards are reviewed two yearly within the context of best available evidence and consultation with colleagues. The original format was refined following the audit of 1994 (see Appendix) and the remit extended to include all antipsychotic medication used in psychoses and related disorders (*British National Formulary* (*BNF*) Section 4.2 and 4.3, 1996). A Checklist for Antipsychotic Review and Evaluation (CARE) form (further details available from the author upon request) was designed for use at consultant reviews, and is filed with the case notes thereby facilitating data collection. The form is semi-structured and functions as an *aide-mémoire*. It also includes a basic tool (visual analogue) for measurement of clinical response to medication.

A target week was randomly selected in 1996, and information from medication cards and case notes for all patients was collected by J.T. Staff were interviewed where necessary. Neuroleptic medication was converted to chlorpromazine equivalents (prescribing guidelines Foster, 1989; Bethlem and Maudsley NHS Trust, 1995) for ease of comparison.

Findings

During the target week, 25 patients (57%) were on antipsychotic medication, of which 20 were for regular neuroleptic medication. Twelve patients were receiving oral medication only. Depot medication was prescribed for eight, with three of these receiving additional oral neuroleptic medication. The mean daily chlorpromazine equivalent dose was 192.4 mg per day. The drugs prescribed were: chlorpromazine (5), thioridazine (7), zuclopenthixol (4), flupenthixol (4), risperidone (2) and haloperidol (1).

'As required' medication was prescribed to 15 patients (thioridazine, 8; chlorpromazine, 6; droperidol, 1; metaclorpramide, 1), but administered in only three cases in the month preceding the audit week.

Eight (18%) patients received antidepressants (paroxetine, 4; fluoxetine, 2; sertraline, 1, venlafaxine, 1). Mood stabilisers were prescribed to seven (16%) (carbamazepine, 6; sodium valproate, 1). Benzodiazepines were prescribed on an as required basis for behaviour disorder only in 15 (34%) (lorazepam, 14; diazepam, 1).

Regular antimuscarinics were prescribed to six people (30% of those receiving regular neuroleptics). As required antimuscarinics were prescribed to nine patients. It had not been administered in the month preceding the audit week. No patients were prescribed a combination of regular and 'as required' antimuscarinics.

The rationale for prescribing regular neuroleptics was mental disorder in 16 patients (64%). Definite ICD–10 criteria for diagnosis was present in 12 (48%), and operational criteria (Hempel, 1961) for diagnosis (evidence-based on behaviour observations, physical assault, episodic behaviour disintegration and diagnosis established on validated instruments PIMRA (Matson *et al*, 1984) and DASH (Matson *et al*, 1991) in 4 (16%)). The remainder of prescriptions, 9 (36%), were for behaviour disorder.

The overall aggregate audit score for the unit in 1996 in percentage terms was 88%. The assessment treatment unit patients scored 95% and the long-stay, 79%. A score of 10 (100%) was achieved in all patients detained under the Mental Health Act 1963. The comparative summary data with reference to our performance in 1996 and the original audit of 1992, and demographic data are listed in Table 1.

Comments

The study is limited to the use of antipsychotic medication (*BNF* Section 4.2, 1996) and does not extend to other alternatives considered in the decision-making process, such as β adrenergic receptor antagonists in over arousal and opioid antagonists in self-injurious behaviour. In a

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Table 1. Kingsbury Community Hospital in 1992 and 1996

	1992	1996
Demographic data (*n*)		
Total number of residents	60	44
Total number on antipsychotic medication	32	25
Patients detained under Mental Health Act 1983	4	8
Audit indicator score (%)		
Overall	60	88
Assessment treatment	70	95
Long-stay	41	79
Reason for prescription (%)		
Mental disorder	13	64
Behaviour disorder	66	36
Regular prescription of antimuscarines (%)	81	30
Average daily dosage of neuroleptic medication in chlorpromazine equivalents (mg)	504	192

small community unit the range of mental disorders treated within a target week may not reflect the true prevalence and varied psychiatric morbidity in people with learning disability.

The exercise demonstrates the benefits of systematic audit incorporating evidence-based medicine on our antipsychotic medication prescribing practice, with significant improvements in performance in the follow-up audit (Table 1). The reduction of the mean daily dose of chlorpromazine from 504 mg in 1992 to 192 mg in 1996, while maintaining stable or improved clinical response, was noteworthy. Nevertheless, regular antipsychotic medication was prescribed to a higher percentage of patients in 1996. This phenomenon may be explained by the substantial increase in the number of people with severe mental illness and/or behaviour disorder, and the successful resettlement of a significant number of erstwhile residents with a lower index of psychiatric morbidity/behaviour disorder over the five years under review.

All prescriptions fell within the *BNF* maximum of 1000 mg/day chlorpromazine equivalence (Royal College of Psychiatrists, 1993), without compromising treatment response. The highest being 620 mg/day in one patient with an intractable behaviour disorder (this patient was previously on neuroleptic medication exceeding 1000 mg in 1992). Decreased use of 'as required' medication is also evident, despite the fact that the percentage of prescriptions were similar to that in 1992. Our use of atypical neuroleptic medication is a conservative 10%. People with learning disability, because of their biological and psychological vulnerability to serious side-effects, may fare better on this class of drugs in view of claims of lower incidence of adverse effects.

Anti-epileptic medication is used preferentially within the unit as an alternative to lithium in mood and behaviour disorders in view of their more favourable side-effect profile and efficacy (Sovner, 1991; Joffe & Calabrese, 1994). Although lithium has been more intensively studied in comparison to other drugs for behaviour problems, the cost–benefit ratio for the drug with people with learning disability suggests that it is not the treatment of first choice (Sovner & Lowry, 1995). Prescriptions for antimuscarinic medication, in conjunction with antipsychotic medication, have reduced markedly (81% in 1992 v. 30% in 1996). Prolonged use of antimuscarinics have been implicated in predisposing patients to tardive dyskinesia and shown to be unnecessary in the majority (Fan, 1991).

From a practical and resource perspective, the integration of medication reviews with multidisciplinary team meetings where core requisites of good psychopharmacology could be addressed and the introduction of the checklist for antipsychotic review and evaluation form has increased the likelihood of achieving our goals. The standard of documentation has also improved markedly, facilitating data collection. The form has since been adapted for use in out-patient clinics.

Our experience over the five years indicates that the audit continuum (Phase I, 1992: 1, Establish standards; 2, Collect data; 3, Evaluate practice; 4, Generate evidence-based recommendations. Phase 2: 5, Establish standards; 6, Collect data; 7, Evaluate practice; 8, Generate evidence-based recommendations. Phase *n*: Quality improvement) has resulted in improvements to the quality of prescribing and consequently patient care, as demonstrated by significant gains in every domain of the audit indicator list (Audit indicator overall score, Table 1). The key elements underpinning the process include systematic multi-disciplinary reviews with consumer participation, and the timely introduction of evidence-based medicine (Brylewski & Duggan, 1996) into clinical practice via modifications to the audit protocol. It has also been beneficial from an educational, pragmatic and economic perspective and is easily integrated into routine clinical practice.

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Appendix Audit indicators (each awarded one point)

(1) Reason for prescription of the medication recorded in case notes.
(2) Patients' view on medication and consent to treatment sought at least annually (Consent to treatment is compulsory every three months if the patient is detained under the Mental Health Act 1983).
(3) Relatives/advocates involved in decision-making process to use antipsychotic medication.
(4) Assessment of response to medication recorded by consultant (minimal annually).
(5) Assessment of risks/benefits recorded by consultant (minimum annually).
(6) Side-effect profile recorded by consultant (minimum annually).
(7) Investigations in the past year as appropriate: full blood count, liver function tests, urea and electrolytes, thyroid function tests, electrocardiogram.
(8) Multi-disciplinary team opinion recorded in the past year.
(9) Medication review by medical staff (at least three monthly recorded in case notes).
(10) Annual review by consultant recorded.

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