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Prescribing errors in psychiatry

AIMS AND METHOD

The Department of Health would like to see serious prescribing errors reduced by 40% by 2005. Little is currently known about prescribing errors made by psychiatrists. The aim of this study was to describe prescribing errors within psychiatry by analysing interventions made by pharmacists. Members of the South-East Thames Psychiatric Pharmacists'

Network were asked to record details of prescribing errors made in their trusts during the month of May 2002.

RESULTS

Five hundred and seventy-nine errors were reported during the study period. The majority of errors were due to clerical oversights or failure to apply clinical knowledge. In 63 cases

(11%), the error could have resulted in a serious outcome.

CLINICAL IMPLICATIONS

Prescribing errors are a daily occurrence in Mental Health Trusts, and a potentially serious error is likely to occur on a weekly basis in an average trust. Steps need to be taken to minimise the chances of errors occurring.

The number of prescriptions written increases annually (Department of Health, 2002) and the number and complexity of available drugs and drug combinations is steadily growing. These facts are just as relevant to psychiatry as to general medicine. Prescribing, like any high-volume, high-risk activity, can go wrong and errors can have tragic consequences. While fatal errors usually involve parenteral drugs such as potassium chloride, cytotoxics or drugs used during anaesthesia (Ferner, 2000), many psychotropic drugs have the potential to cause significant morbidity and mortality if used wrongly. In addition, psychiatrists can find themselves prescribing out of their area of expertise when patients with physical illnesses are admitted to psychiatric beds.

It has been estimated that up to 2% of hospitalised medical patients in the United States might be harmed as a result of a drug error, most of which are prescribing errors (Bates *et al*, 1995). One-fifth of clinical negligence claims originating from hospitals in the UK involve medication errors (Audit Commission, 2001). The Department of Health (2000) would like to see serious prescribing errors reduced by 40% by 2005 and the National Patient Safety Agency has been charged with overseeing this task (www.npsa.org.uk). There are no systematic studies that focus on prescribing errors in psychiatry, therefore the aim of this study is to describe prescribing errors in this speciality.

Method

A standard questionnaire with two open questions was constructed. The free text answer to the first question,

'what was the nature of the problem?', was coded as 'clerical', 'clinical' or 'other' as described below:

- Errors that appeared to be unintentional, such as illegible or ambiguous prescriptions or transcription errors, were coded as 'clerical'.
- Errors that resulted from a lack of knowledge of pharmacology, such as the wrong dose or dosage interval, therapeutic duplication or a clinically-significant drug interaction, were coded as 'clinical'.
- Errors that did not fall into either of the above categories, such as violation of clinical trial protocols, were coded as 'other'.

Answers to the second question, 'what action was taken by the pharmacist?', were coded as 'verbal' (e.g. speaking to the prescriber) or 'written' (e.g. leaving a note on the prescription chart).

Members of the South East Thames Psychiatric Pharmacists' Network (SEPPN) were invited to participate in the study. They were asked to complete a form for each prescribing intervention made by a pharmacist during the month of May 2002. All completed forms were returned to Oxleas NHS Trust pharmacy. Data were analysed using SPSS version 10.

Results

Five hundred and seventy-nine completed forms were returned from 12 Mental Health Trusts. One hundred and fifty-five (27%) interventions were required to correct clerical errors, 335 (58%) clinical errors and 67 (12%) related to other problems. The most common errors in each category are shown in Table 1. A further 22 (4%)

**Table 1. Common prescribing errors**

Clerical (n)	Clinical (n)	Administration/monitoring problem (n)
Incorrect dose or frequency transcribed (47)	Drug regimen prescribed not effective for indication (50)	Clozapine prescribed to take home. Blood test not done (no plans to obtain) (28)
Drug name, form or strength illegible (32)	Dose too high or being increased too quickly (49)	Drug administered incorrectly (13)
Other clerical error (e.g. standard increasing dose prescription finished and regular treatment dose not prescribed) (19)	Duration of treatment too long (44)	Prescribed drug not administered for several days without review (10)
Drug omitted when new prescription chart written (18)	Dose too low or being increased too slowly (32)	Long period of regular use of as-needed without review (7)
Frequency of administration not stated or unclear (14)	Drug interaction with potential toxicity (25)	Long period without use of as-needed but still prescribed (5)

Table 2. Prescribing errors with a potentially serious outcome

Error (n)	Potential outcome
NSAID, ACE inhibitor or diuretic added to long-term lithium treatment with no additional monitoring (12)	Lithium toxicity
Carbamazepine prescribed for patient receiving standard dose combined oral contraceptive (3)	Contraceptive failure leading to unplanned pregnancy
Clozapine restarted at original dose after a break of more than 48 hours (3)	Severe side-effects from clozapine (sedation and postural hypotension)
Penicillins prescribed for patients with well-documented allergy (recorded on medicine card or front of clinical notes) (3)	Severe allergic reaction
Long-acting oral hypoglycaemics prescribed at night (2)	Severe nocturnal hypoglycaemia with potential end organ damage
Patient receiving long-term hydrocortisone for Addison's disease, prescribed a reducing regimen on admission to hospital (1)	Addisonian crisis
Efferescent potassium prescribed on as-needed basis with no clear instructions for dose, frequency or duration (1)	Potentially significant physical symptoms secondary to hypo or hyperkalaemia

NSAID, nonsteroidal anti-inflammatory; ACE, angiotensin-converting enzyme.

reported interventions were actually drug information inquiries and were therefore excluded.

Three hundred and seventy-seven (65%) interventions involved psychiatric drugs and the remainder drugs for physical illness. In 63 (11%) cases, a potentially serious outcome was avoided. Examples are shown in Table 2.

Pharmacists communicated their concerns by contacting the prescriber directly in 338 (58%) cases, leaving notes on prescription charts or in the ward diary in 180 (31%) cases, speaking to the nursing staff in 95 (16%) cases and writing in the clinical notes in five (1%) cases. In some cases, more than one action was taken.

Discussion

Prescribing errors are a daily occurrence in Mental Health Trusts. Approximately 10% of errors are potentially serious and Mental Health Trusts can expect at least one error of this type to occur every week. Pharmacists are known to report less than a third of prescribing interventions that they make (Boardman & Fitzpatrick, 2001), so the actual number of errors might be much higher.

A quarter of the errors detected were 'clerical' in nature. These may be due to pressure of work, lack of familiarity with the system or the patient, or simple carelessness. This group of errors consisted mostly of transcription errors and incomplete or ambiguous prescriptions. Such errors can be potentially serious. Examples included omitting lithium from a new medicine card (abrupt discontinuation is associated with a high risk of relapse into mania) and failure to make a decimal point clear (a frail elderly patient was given 5 mg risperidone when 0.5 mg was intended). It has been suggested that doctors see rewriting medicine cards as a routine task that requires less attention than primary prescribing (Dean *et al*, 2002). This perception must be challenged.

Almost 60% of errors were 'clinical' in nature. This is consistent with studies of prescribing errors in medicine as a whole (Dean *et al*, 2002). These errors originate from a lack of understanding of what is being prescribed, what the correct dose should be, how the drug works and the drug interactions that might be anticipated. Research in general medicine has shown that the consultant often instructs the junior doctor to 'put the patient on . . .', 'increase the dose a bit . . .', 'titrate against response . . .' etc. and the junior doctor does not have the expertise to interpret or time to fully think through every instruction (Dean *et al*, 2002). Clinical errors when prescribing psychiatric drugs were found to be just as likely as when prescribing drugs for physical illness. These errors could possibly be minimised if consultants gave more explicit instructions to their junior doctors, directly looked at medicine cards more often and covered the practicalities of prescribing during clinical supervision.

Monitoring errors are also common, particularly prescribing clozapine in the absence of satisfactory blood results (or any plan to obtain them) and prescribing drugs on an as-needed basis for long periods of time without any review of continuing need. The original indication

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might have resolved and the drug still be administered for a completely different purpose. One study found that nurses administered anticholinergic drugs on an as-needed basis for a wide range of indications, including blurred vision and repetitive chewing movements (Birmingham *et al*, 1999).

When prescribing errors were detected, the prescriber was contacted directly in less than two-thirds of cases. Although resolving the problem without contacting the prescriber may be justified as 'not bothering the doctor', Dean *et al* (2002) found that most junior doctors welcomed feedback on their prescribing and considered it to be an important part of their development. Leaving notes on medicine cards might communicate the action required without the rationale being obvious, thus wasting a learning opportunity.

Misner (2002) found that increasing the number of clinical pharmacists in a hospital from the 10th percentile to the 90th percentile reduced medication errors by almost 300%. The greatest impact was made by their involvement in developing prescribing protocols, providing a drug information service, and by their participation in ward rounds and adverse drug reaction management.

In conclusion, prescribing errors are common in mental health settings and a significant number of these errors may result in a serious outcome. In the majority of cases, simple steps such as reduced junior doctor workload, improved training in psychopharmacology and more direct supervision of prescribing may have prevented the error occurring. These are systems problems that are easy to detect, but difficult to address. The contribution of clinical pharmacists to detecting errors before they have a (sometimes serious) clinical impact should not be underestimated.

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Declaration of interest

C.P. and S.G-B. are both pharmacists who would like to see better resourcing of pharmacy services in Mental Health Trusts nationally.

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