Contemporary Themes

Transfer of Information about Intake of Drugs by Patients Referred to Medical Units

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Summary

The efficiency of the transfer of information among doctors about current drug therapy was examined in emergency, waiting list, and outpatients. Communication about the patient's recent medical history was established with the practitioner in 551 of 559 patients referred (99%). Four hundred and ninety-eight patients (89%) were currently taking 1,557 drugs either supplied by prescription or taken as self-medication. In 314 patients (56%) some information was supplied by the practitioner about 555 drugs (36%). Six hundred and thirteen (61%) of the 1,002 drugs not mentioned by the practitioner were drugs supplied by prescription, mainly hypnotics, sedatives, and analgesics. The transfer of information was unsatisfactory about drugs taken as self-medication and about the allergic status of patients.

If iatrogenic disease due to drug therapy is to be recognized or prevented the communication of information about drugs must be improved.

Introduction

There is increasing awareness of the morbidity and mortality associated with modern drug therapy, and iatrogenic disease is becoming a major health problem. About 90% of all drugs prescribed in the United Kingdom are taken by patients outside hospital,¹ but there is no information available concerning the quality of the transfer of information between doctors about the current drug therapy of patients in the community.

The present study was carried out to examine the efficiency of the communications between doctors about the intake of drugs by patients in emergency admissions, outpatients, and waiting list admissions.

Patients and Methods

A total of 559 patients (299 female) aged 12-92 years were either emergency admissions or new outpatients or planned "list" admissions referred over a six-month period by the general practitioners of the north-east of Scotland region. The emergency cases were referred by the practitioner, who usually sent a letter with the patient after arranging the admission by telephone with a house physician, who made special inquiry about

current drug therapy and recorded the details on a standard form. Altogether 254 patients admitted consecutively to one acute general medical firm were interviewed.

Outpatient consultations were normally arranged by the practitioner, who sent a standard referral form which had a specific area designated for recording information about current drug therapy; 206 consecutive patients referred to two general medical firms were interviewed. In the case of list admissions patients were provided in their admission documents with a standard card to take to their practitioner for completion of details of current drug therapy; 99 consecutive patients were interviewed.

The medical, nursing, and receptionist staff were asked to ensure that any letter or card from the practitioner was obtained from patients or relatives. The information about current drugs, obtained from both the practitioners and the patients, was recorded on a standard form by the same doctors (T.B. or J.C.P.). The information supplied by the practitioner about drugs was checked with the patient and specific inquiry was made about drugs obtained by prescription but not mentioned by the practitioner and about drugs taken as self-medication in the previous two-week period. Details of drugs taken more than two weeks before the time of the interview were not taken because it was considered that any information obtained would be unreliable. Details of probable allergic status were also recorded.

Results

Communication about some aspect of the patient's recent medical history was established with the practitioner in 551 cases (99%). Eight patients were referred direct from the casualty department. The diagnostic categories, sex distribution, and average age of the patients are shown in Table I.

TABLE I—Diagnostic Categories, Sex Distribution, and Average Age of 559 Patients

Type of Referral	Diagnostic Category						Total		Average Age
	C.V.S.	C.N.S.	G.I.S.	Endo.	Resp.	Others	M.	F.	
Emergency (n = 254)	114	39	44	7	41	9	133	121	61.7
Outpatient (n = 206)	48	45	40	45	17	11	92	114	43.5
List (n = 99)	19	19	17	28	6	10	35	64	48.9

C.V.S. = Cardiovascular system. C.N.S. = Central nervous system. G.I.S. = gastrointestinal system. Endo. = Endocrine system. Resp. = Respiratory system.

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Drug Intake.—At the time of interview 439 patients (79%) claimed to have been taking drugs supplied by prescription in the two-week period before admission. A total of 281 patients (50%) were taking drugs as self-medication. Fifty-nine patients

(11%) were taking self-medication only and 61 patients (41 male) were not on drug therapy (Table II). The 498 patients (90%) on drugs claimed to be taking a total of 1,557 drugs. The average intake of drugs per person was 2.3 for males and 3.2 for females. The peak intake of drugs was in the age group 61-70 (Table III).

TABLE II—Category of Drug Intake of 559 Patients

Type of Referral	Supplied by Prescription (439 Patients)		Self- medication Only	No Drug Intake
	Alone	Plus Self-medication		
Emergency (n = 254) ..	105	107	20	22
Outpatient (n = 206) ..	74	80	32	20
List (n = 99) ..	38	35	7	19
Total ..	217	222	59	61

TABLE III—Age and Drug Distribution in 559 Patients (1,557 Drugs*)

Age Group	Emergency		Outpatient		List		Drugs/ Patients
	Patients	Drugs	Patients	Drugs	Patients	Drugs	
11-20	7	20	20	40	10	13	1.9
21-30	12	28	34	76	9	14	2.1
31-40	11	33	34	67	9	29	2.4
41-50	17	40	45	93	20	41	2.1
51-60	47	158	36	84	22	79	3.1
61-70	81	308	28	76	23	68	3.4
71-80	59	199	9	23	5	19	3.3
81-90	17	43	0	0	1	1	2.4
≥91	3	5	0	0	0	0	1.7
Total	254	834	206	459	99	264	

*Each drug refers to one drug type—that is, either supplied by prescription or taken as self-medication.

Information Available.—There was partly complete information supplied by the practitioner about drug intake in the cases of 314 patients (56%). These patients claimed to be taking an additional 465 drugs not mentioned by the practitioner (249 drugs supplied by prescription and 216 drugs taken as self-medication) (Table IV). Only one of the 56 drugs administered

TABLE IV—Information about Intake of 1,557 Drugs

Type of Referral	Drug Information from Practitioner (314 Patients)		No Drug Information from Practitioner (245 Patients)
	Drugs Mentioned*	Drugs not Mentioned	
Prescribed drugs	381	128	178
Self-medication drugs	142	85	104
	96	36	82
		121	64
		72	82
		32	27
Total	555	465	537

*A total of 64 drugs supplied by prescription and mentioned by the practitioner were not being taken at the time of interview.

as an emergency was not mentioned by the practitioner. There was no information from the practitioner about 537 drugs in the cases of 245 patients, who claimed to be taking 364 drugs supplied by prescription and 173 drugs taken as self-medication. Sixty-four drugs supplied by prescription and mentioned by the practitioner were not being taken at the time of the interview.

Additional Drugs.—A total of 1,002 drugs (64%) not mentioned by the practitioner were being taken. Altogether 613 (61%) were drugs supplied by prescription and were being taken by 301 patients (181 female). The 389 drugs taken as self-medication were taken by 281 patients (156 female). The principal prescribed drugs not mentioned by the practitioner were sedatives and hypnotics (Table V). The principal self-medication drugs were analgesics (aspirin 138, others 62), laxatives (108), and antacids (44).

TABLE V—Examples of 613 Prescribed Drugs not Mentioned

Drug Group	Emergency	Outpatient	List	Total
Sedatives-hypnotics	53	15	21	89
Analgesics	38	27	9	74
Antacids	27	24	9	60
Respiratory	23	25	11	59
Cardiovascular	29	14	10	53
Central nervous system	18	24	9	51
Iron, K ⁺ supplements, tonics	23	12	15	50
Antibiotics	27	11	4	42
Diuretics	15	5	11	31
Anticoagulants	3	0	0	3

Allergic Status.—Four patients were stated by the practitioner to have a "drug allergy." Thirty-five patients were specifically stated not to have a drug allergy, although one of these patients had a documented allergic response to drugs in hospital records. At interview a further 45 patients claimed to be "allergic" to drugs but a drug allergy was documented in the patients' previous records in only 23 cases.

Discussion

The quality of information about the drug intake of patients in the community has not been studied in detail. de Alarcon and Hodson,² in a general study of the value of the practitioner's letter, found that in only 22.6% of 500 letters obtained from a random sample of case notes was some form of treatment mentioned. Barnes and Hoile,³ in a survey of letters accompanying emergency admissions, found that in half of the available letters there was no mention of drug therapy. The availability of potent modern agents makes the efficient transfer of information about drug therapy as important as almost any other item of information about the patient's recent medical history if iatrogenic disease due to drugs is to be prevented or recognized promptly.

Systems for handling information about current drug therapy and drug monitoring programmes have been developed for use in hospitals,⁴ but the exposure to drugs in hospital is short compared with the exposure to drugs in a lifetime spent in the community. This study on patients representative of those referred to medical units from the community shows that few patients who are referred to hospital are not on drug therapy and that the intake of several drugs is common, especially in older female patients.

The quality of information obtained was unsatisfactory despite a 99% rate of communication with the practitioner about some aspect of the patient's medical history by apparently efficient methods. Some of the patients may have given incorrect information about their own therapy, as they are exposed to drugs and advice from multiple sources, but every effort was made to check the information and to identify the drugs. An additional difficulty for the practitioner was that patients did not always take all the drugs prescribed. Nevertheless, the principal drugs not mentioned and which the patients claimed to be taking were drugs supplied by prescription, and in no case were drugs which had been taken as self-medication mentioned, although in patients referred to outpatient clinics these drugs may have been obtained after the patient had been referred.

There are many difficulties associated with maintaining an up-to-date record of drugs prescribed and supplied in general practice. The patient may be seen at home or in haste or as an emergency or by one of several partners or doctors on call. In addition the patient may obtain drugs by "repeat prescription" or from one of several hospital outpatient departments, or he may be supplied with drugs by the chemist, who will ask for the prescription to be signed for at a later date by the practitioner. Old drugs and friends' drugs may also be taken. Another factor may be that the present executive council envelope (EC6) and forms (EC7, 8) available to practitioners do not have an area specifically designed to record current prescriptions, although drugs are prescribed in over 70% of consultations.⁵ It has been estimated that 20% of practitioners make no notes at all.⁶

Adequate patient care requires that there is accurate information about drugs supplied by prescription, but in addition a careful inquiry must be made about drugs taken as self-medication, which half of the patients in this study had taken recently. In a survey of the population of a working-class estate Jefferys *et al.*⁷ found that 66% of the subjects interviewed has taken drugs as self-medication in the previous month. It is of interest that whereas the information from the practitioner about prescribed drugs was inadequate and there was no information about drugs taken as self-medication the transfer of information about emergency drugs was excellent. This latter finding was also noted by Barnes and Hoile.⁸ It should be emphasized that the effects of drugs may persist for days and that the transfer of details about all drugs, and not just emergency drugs, is necessary.

The information on the allergic status of patients was unsatisfactory and confirms the finding of de Alarcon and Hodson² that no reference to drug allergy status was made in their random sample of 500 letters from case notes. The present study shows that in communications about drugs a clear differentiation must be made between true drug allergy and adverse reactions to drugs.

Most of the drugs not mentioned by the practitioners have been implicated as causes of iatrogenic disease or may be involved in drug interreactions—for example, sedatives, hypnotics, analgesics, and antacids. Seidl *et al.*⁸ showed that adverse reactions to drugs were present on admission in 5% of patients. The deficiencies in communication brought to light by the present study suggest that this may be an underestimate. Seidl *et al.* also found that almost half of the adverse reactions to drugs prescribed in hospital occurred in the first three days in hospital and especially on the first day. These studies confirm the difficulties associated with performing clinical drug trials

both in the community and during brief admissions to hospital. A study of the transfer of information about the drug therapy of patients discharged from hospital is required.

The findings of this study indicate that an efficient system is required in general practice to record, handle, and transfer information about prescribed drugs and drugs taken as self-medication and about the allergic status of the patient. The patient's clinical record should contain an easily accessible area which should serve as a focus for all information about drugs, and this should be brought up to date at each contact that the patient has with any doctor. Any patient receiving more than two prescribed drugs should be encouraged to carry a card with details, not only of the drug type prescribed but also of dosage and recommended time of administration. The transfer of information about drugs must be improved if effective treatment is to be given and if iatrogenic disease is to be prevented or recognized.

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Today's Drugs

With the help of expert contributors we print in this section notes on drugs in common use

Which Drugs for Which Rheumatic Disorder?

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With all the information available as to drug action in the rheumatic diseases, the clinician is left with the difficult task of having to select one or more for his particular patient. Which drug is he going to select? This is extremely difficult, and depends very much on the following factors: (1) the diagnosis; (2) the phase, stage, and extent of the disease; (3) the patient's likes and dislikes; (4) presence or absence of dyspepsia or other gastro-intestinal symptoms; (5) the side effects of the drug in question; and (6) possible inter-reaction between the various drugs he may be taking.

The essential difference between applied pharmacology and therapeutics is that, though twenty mice may behave in a very similar manner on a given dose of one drug, human beings behave notoriously differently, and what works like a charm in one proves toxic or fails miserably in another. It is this that makes therapeutics so interesting, and at the same time so difficult.

Rheumatoid Arthritis and Similar Inflammatory Arthropathies

In rheumatoid arthritis the drugs usually required are: (1) a suitable anti-inflammatory agent, usually taken at regular intervals; (2) analgesics to be taken in addition as required for pain; (3) possibly long-acting drugs such as gold or the anti-malarials. Penicillamine is undergoing clinical trials; (4) psychotropic drugs—that is, antidepressants, sedatives, tranquillizers; and (5) drugs aimed to help general health—for example, vitamins, iron etc.

ANTI-INFLAMMATORY DRUGS

Among the primary choice is usually aspirin, provided the patient will tolerate it. Taken only occasionally it acts as an analgesic, but for antirheumatic—that is, anti-inflammatory—effect dosage must be high and given regularly every three to four hours. Aspirin is therefore the first choice—5 to 6 g a day in divided dosage. All preparations have much the same side