

Prescriptions for psychiatric and neurological disorders treated at Chulalongkorn Out-Patient Clinic.

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This study was part of an analysis of prescriptions written in the Out-Patient Clinic of Chulalongkorn Hospital for a 52-weeks period. The study was undertaken in order to identify the drugs prescribed for the various psychiatric problems and neurological disorders diagnosed at the Out-Patient Clinic. Of the total, 573 patients were diagnosed as having psychiatric problems and 568 as having neurological disorders. The most commonly diagnosed psychiatric problem was anxiety, and the most common neurological problem was tension headache. Diazepam was prescribed most, frequently, not only for psychiatric patients but also for treating other patients' complaints. This drug was considered to be the most commonly prescribed drug of questionable appropriateness.

Key words : *Drug prescribing, Psychiatry, Neurology.*

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**ภัทรา นันทวัน. การสังยารักษาโรคทางจิตเวชและระบบประสาทที่ห้องตรวจโรคทั่วไปทางอายุรศาสตร์
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การศึกษานี้เป็นการศึกษาใบสั่งยาสำหรับผู้ป่วยที่มารับการรักษาโรคทางจิตเวชและระบบประสาทจาก
ห้องตรวจโรค ทั่วไปทางอายุรศาสตร์ ของโรงพยาบาลจุฬาลงกรณ์ ในระยะเวลา 52 สัปดาห์ โดยวิเคราะห์จาก
ผู้ป่วยที่ได้รับการวินิจฉัยด้วยโรคทางจิตเวช 573 คน และผู้ป่วยทางระบบประสาท 568 คน พบว่าโรคที่พบ
มากที่สุดทางจิตเวชคือ ความผิดปกติชนิดวิตกกังวล และทางระบบประสาทคือ ปวดศีรษะชนิดเทนชั่น ยา
ที่มีการสั่งจ่ายมากที่สุดสำหรับโรคทางจิตเวชคือ ไดอาเซแพม ยานี้ยังมีการใช้มากที่สุด เมื่อรวมทุกโรคแล้ว
ความเหมาะสมในการใช้ยานี้ยังคงเป็นเรื่องที่น่าสงสัย

Unnecessary drug therapy can produce adverse physical effects. Risks of treatment include adverse side-effects, drug-interaction, toxicity and habituation. The risks are even more severe if the drugs are administered inappropriately. Thailand's ministry of public health is attempting to decrease expenditures on medication by recommending the National List of Essential Drugs for use in government hospitals and health centers. Another possible way to reduce such expenditures is to have the drugs ordered by their generic names. The aim of this study is to assess the prevalence of psychiatric and neurological diagnoses in the clinics run by general practitioners in light of the medical therapy offered to the patients.

Methods

Data for this analysis were collected from the Out-Patient Department of Chulalongkorn Hospital between February 1, 1988 and February 1, 1989. All prescriptions were collected on one day per week for the 52-week period. The day selected for the first week was Monday, for the second week, Tuesday, and so on during the ensuing weeks. Only prescriptions paired with Out-Patient Department cards were used in this study. Analysis was performed with a computer. The data on patients with psychiatric problems and neurological disorders were abstracted for determining the diagnoses, drugs prescribed, generic names or trade names of the drugs used, or the combined formulation, expenditures, and information that would help in determining their appropriateness. Inappropriate prescription included: those that involved over-dosage, contraindications, drug interaction, unnecessary drugs, inadequate dosage, aspects related to duration of therapy, route of drug administration, form of drugs, and others. Medications of questionable appropriateness comprised drugs prescribed for therapy without any distinct indication being given of how the drugs were related to treating the chief complaints or to the diagnoses.

Results

The number of patients attending the Out-

Patient Department during the one-year period totalled 15,099, or an average of estimated 290 persons a day. Of these, 8,173 prescriptions with Out-Patient Department cards were used for analysis; unpaired ones were excluded. The age of the entire sample of patients varied from under 10 years to over 89 years, with 65.55 % being males and 34.45 % females. there were 573 (5.96%) patients diagnosed as having psychiatric problems; and there were 568 (5.91%) with neurological problems.

Tables 1-2 present the counts of the different diagnoses in term of psychiatric and neurological complaints, respectively; the table also provide percentages of diagnoses and number of drugs prescribed. Anxiety accounted for the highest number of diagnoses in terms of psychiatry, i.e. 412 cases (71.9%); the second highest was neurosis, i.e. 98 (17.10%). The average number of drugs (items) prescribed ranged from 1 to 2.04 per diagnosis. Tension headache accounted for the highest number of diagnoses in the neurological complaints i.e. 239 (42.08%); this was followed by headache 165 (29.05%). An average of 1.45 to 2.34 drug items were prescribed for each diagnosis. Table 3 shows the drugs frequently prescribed for psychiatric problem, and table 4 shows those prescribed for neurological illnesses. Diazepam was the most commonly prescribed drug for anxiety, neurosis, and insomnia. Next to diazepam, Clorazepate was commonly prescribed for treating anxiety (19.46%) Diazepam was also used along with more than half of the analgesics prescribed for treating headache, both the tension type and those having other causes.

In comparing the preference of practitioners in prescribing drugs by trade name, generic name, and combination, clorazepate appeared to be prescribed mostly by trade name (369/373); librax was the most commonly prescribed drug in combination formulas; and diazepam was the most popular drug, both as a single agent and coadministered with other drugs in prescriptions for treating great variety of symptoms. Diazepam, which was usually prescribed by its generic name (1332/1438), was the leading drug in terms of questionable appropriateness in prescriptions, as shown in table 5.

Table 1. Counts of diagnoses and drug items in psychiatry.

Rank	Diagnosis	No.(%)	Total no. of drug items	Average
1	Anxiety	412 (71.90)	841	2.04
2	Neurosis (tension state)	98 (17.10)	208	2.12
3	Insomnia	51 (8.90)	81	1.59
4	Depression	5 (0.87)	8	1.60
5	Anorexia nervosa	2 (0.35)	4	2.00
6	Hyperventilation syndrome	2 (0.35)	3	1.50
7	Dementia	1 (0.17)	1	1.00
8	Functional dysphagia	1 (0.17)	2	2.00
9	Neurasthenia	1 (0.17)	2	2.00
Total		573 (100)	1,150	2.01

Table 2. Counts of diagnoses and drug items in neurological system.

Rank	Diagnosis	No.(%)	Total no. of drug items	Average
1	Tension headache	239 (42.08)	560	2.34
2	Headache caused	165 (29.05)	299	1.81
3	Migraine	71 (12.50)	162	2.28
4	CVA	31 (5.46)	48	1.55
5	Epilepsy	15 (2.64)	21	1.40
6	TIA (RIND)	11 (1.94)	16	1.45
7	Cerebral insufficiency	10 (1.76)	16	1.60
8	Neuralgia (neuritis)	9 (1.58)	19	2.11
9	Trigeminal neuralgia	3 (0.53)	5	1.67
10	Miscellaneous	14 (2.46)	25	1.79
Total		568 (100)	1,170	2.06

Table 3. Five most prescribed drugs in each psychiatric disorder.

Diagnosis	Drug	
	Name	No.(%)
Anxiety	Diazepam	177 (31.61)
	Clorazepate	109 (19.46)
	Paracetamol	52 (9.29)
	B complex	33 (5.89)
	Multivitamin + Mineral	16 (2.86)
Neurosis (tension state)	Diazepam	57 (27.40)
	B complex	29 (13.94)
	Paracetamol	23 (11.06)
	Clorazepate	17 (8.17)
	Multivitamin + Mineral	17 (8.17)
Insomnia	Diazepam	31 (38.75)
	Clorazepate	5 (6.25)
	Midazolam	5 (6.25)
	Paracetamol	3 (3.75)
	Chlordiazepoxide	2 (2.50)
Depression	Tryptanol	3 (37.50)
	Paracetamol	1 (12.50)
	Diazepam	1 (12.50)
	Clobazam	1 (12.50)
	Clorazepate	1 (12.50)
Anorexia	B complex	2 (50.00)
	Diazepam	1 (25.00)
	Mosegor	1 (25.00)
Hyperventilation syndrome	Diazepam	2 (66.67)
	Clorazepate	1 (33.33)
Dementia	Haloperidol	1 (100.00)
Functional dysphagia	Paracetamol	1 (50.00)
	Clorazepate	1 (50.00)
Neurasthenia	Chulalyte	1 (50.00)
	Paracetamol	1 (50.00)

Table 4. Five most prescribed drugs in each neurological disorder.

Diagnosis	Drug	
	Name	No.(%)
Tension headache	Paracetamol	177 (31.61)
	Diazepam	109 (19.46)
	Clorazepate	52 (9.29)
	B complex	33 (5.89)
	Chlordiazepoxide	16 (2.86)
Headache caused	Paracetamol	177 (40.34)
	Diazepam	62 (21.38)
	B complex	17 (5.86)
	Clorazepate	11 (3.79)
	Bellergal	10 (3.45)
Migraine	Cafergot	30 (18.52)
	Paracetamol	29 (17.90)
	Bellergal	22 (13.58)
	Diazepam	18 (11.11)
	Belloid tab	9 (5.56)
CVA	Aspirin	12 (25.00)
	B complex	6 (12.50)
	Hydergine	3 (6.25)
	Hydrochlorothiazide	2 (4.17)
	Moduretic	2 (4.17)
Epilepsy	Phenytoin	10 (47.62)
	Diazepam	2 (9.52)
	Amilco tab	1 (4.76)
	Hydrochlorothiazide	1 (4.76)
	Paracetamol	1 (4.76)
TIA	Persantin tab	6 (37.50)
	Aspirin	3 (18.75)
	Sibelium	2 (12.50)
Cerebral insufficiency	Cinnarizine	5 (31.25)
	B complex	3 (18.75)

	Hydrochlorothiazide	2 (12.50)
	Sibelium	1 (6.25)
Neuralgia (neuritis)	Paracetamol	3 (15.79)
	Diazepam	3 (15.79)
	B complex	3 (15.79)
	Carbamazepine	2 (10.59)
	Dialose Plus cap	1 (5.26)
Trigeminal neuralgia	Carbamazepine	2 (40.00)
	Paracetamol	1 (20.00)
	Phenytoin	1 (20.00)
	Cloxacillin	1 (20.00)

Table 5. Drugs prescribed with questionable appropriateness for all diseases.

Rank	Drug	No. of prescribing	(%)
1	Diazepam	262	(12.97)
2	B complex	213	(10.54)
3	Paracetamol	147	(7.27)
4	Multivitamin	143	(7.07)
5	B1-6-12	95	(4.70)
6	Clorazepate	51	(2.52)
7	Chulalumin	42	(2.08)
8	Amoxicillin	36	(1.78)
9	Ampicillin	33	(1.63)
10	Others (153 drugs)	999	(49.43)
Total		2,021	(100)

Prescribing psychoactive medication appears to have been unnecessary. Drugs prescribed from neurological disorders characterized as (a) unnecessary included cinnarizine for tension headache, and (b) inappropriate was the ordering of cafergot. In the treatment of migraine headache, some prescribed one tablet to be taken orally three times a day (30 tablets).

The expenditure for each disorder was less than 50 baht in the majority of cases.

Discussion

These data were obtained from sampling the records of patients on different days of the week for the 52-week which was done in order not to introduce a bias with regard to detecting a specific practitioner. The clinic is not run by specialists, but by general practitioners. Thus, the cases were somewhat different from those that would be seen in specialty clinics. This analysis may help in decreasing the expenditures on medication and in reducing the incidence of inappropriate prescriptions. The study showed that some groups of drugs were used more than necessary. Benzodiazepines were used in a lot of cases. If stress and anxiety were the underlying causes in many of the psychiatric cases, then the prescription of benzodiazepines would generally be suitable. Diazepam was the leading drug in the prescriptions for treating disorders observed in the entire series. If physicians would exercise caution in prescribing benzodiazepines only in cases when they are necessary, dosage usage would be cut down. In New York state, the high level of abuse, misuse and iatrogenic injury associated with benzodiazepines led the government of that state to regulate their prescription. Effective January 1, 1989, it required that all prescriptions for benzodiazepines be written on special triplicate prescription forms. Since then expenditures on benzodiazepines decreased 52% from 1988 to 1989 (\$21.7 million vs. annually \$10.4 million).⁽¹⁾ Cinnarizine was used in some cases of tension headache; however, this symptom is not caused by a reduction of blood flow.⁽²⁾ The prescription of cinnarizine in such a diagnosis is thus questionable.

Some drugs have many side-effects; for ex-

ample, ergotamine should be administered with caution because the drug could cause ergotism (muscle pain, vasoconstriction, mottled skin, peripheral gangrene, multifocal encephalopathy)^(2,4) or ergot-induced headache.⁽⁵⁾ Prophylactic treatment of migraine is preferred and, when medication with ergotamine (cafergot) is required, it should be limited in dosage.

Although the expenditures shown in this study were rather low, they could be lower if practitioners had prescribed the drug using generic names more than trade names, and if they cut down the prescription of unnecessary drugs.

Another notification is the frequency of diagnoses. This may provide a guide for adjusting the subjects covered in the education program of medical students.

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