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## Psychotropic Drug Prescribing in General Practice

II. A Three Year Retrospective Study from an Island Community in Northern Norway

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In a rural community in the northern part of Norway, the prescribing of psychotropic drugs has been recorded. The total prescribing during three years amounted to 60 defined daily doses per thousand inhabitants per day. Hypnotics and sedatives comprised together with antihistamines, 50 % of the total amount of defined daily doses. Neurosis was the dominating indication for prescribing. The majority of the patients (59 %) received less than 50 defined daily doses per year, indicating that most patients have a moderate consumption of psychotropic drugs. One of five users were prescribed more than 180 defined daily doses per year (71 % of all DDD), representing a probable risk-group for chronic use.

Key words: psychotropic drugs, prescribing, general practice, mental problems.

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Prescribing psychotropic drugs is made difficult because objective diagnostic and therapeutic criteria for prescribing these drugs are largely non-existent. Further, the lack of agreement among physicians regarding drug use in the treatment of psychiatric symptoms further complicates this process.

It is therefore considered important to develop methods to describe the treatment of psychiatric diseases in general, and the prescribing of psychotropic drugs in particular. This article (the second of two) (1) describes the psychotropic drug prescribing in a rural community in Northern Norway.

### AIMS

The prescribing of psychotropic drugs during a three-year period has been recorded in order to study prescribing frequency, indications for prescribing, quantitative patterns of psychotropic drug prescribing, prescribing in relation to type of patient—doctor encounter, and seasonal variations in prescribing.

By analysing the prescribing pattern in a defined

community we want to increase the knowledge of psychotropic drug prescribing:

- a) in primary health care in general, thereby contributing to a reference for physicians participating in the Self-Evaluation Programme developed by the Norwegian College of General Practitioners (2),
- b) in this municipality in particular, thereby providing a basis for improvement of the local psychotropic drug prescribing.

### METHODS

The data have been collected through a retrospective analysis of all psychotropic drug prescriptions issued on Vaerøy over a period of three years (1).

Psychotropic drugs included in this study are neuroleptics, minor tranquillizers, hypnotics/sedatives, antidepressants and antihistamines (when prescribed for sleeping disturbances). The drugs were classified according to the ATC system as recommended by the World Health Organization (3).

For each psychotropic drug prescribed, the fol-

Table I. Prescribing frequency. Total number of DDD prescribed in the three-year period and DDD per 1 000 inhabitants per day

ATC = Anatomical Therapeutical Chemical Classification prepared by the European Pharmaceutical Market Research Association.

ATC-group	Total DDD		DDD/1 000 Inhabitants/ day, No.
	No.	%	
Neuroleptics	8 964	14.7	9
Minor tranquilizers	11 831	19.4	12
Hypnotics/sedatives	24 577	40.3	24
Antidepressants	10 407	17.1	10
Antihistamines	5 157	8.5	5
Total	60 936	100.0	60

lowing data were registered: date of prescribing, name, potency and quantity of the drug, whether the physician recommended a fixed daily dose or occasional use, indication for prescribing, whether the prescribing took place at a regular consultation, at a home call or by indirect contact with the patient (telephone, repeat prescriptions issued by the receptionist).

Indications for prescribing have been classified as follows:

**Neurosis.** Patients with classical neurosis and more diffuse neurotic conditions often seen in general practice, characterised by i.e. anxiety, restlessness, tension, insomnia and depression.

**Psychosis.** Conditions marked by personality disintegration and loss of contact with reality. Manic-depressive illness. Schizophrenia.

**Insomnia.** Delay in falling asleep, reawakening during the night and/or early morning awakening. This indication has been recorded only when sleep disturbance was the sole problem. When insomnia occurred together with other symptoms, the indication was classified as one of the other symptoms.

**Alcoholism.** This indication has been used when abuse of alcohol was the patient's dominating problem, as judged by the doctor.

**Psychosomatic disorder.** Somatic complaints due to underlying psychiatric disease (i.e. chest pain not due to organic disease).

**Somatic disease.** Used when psychotropic drugs were prescribed as muscle-relaxants, in combination with analgetics or in treatment of nausea.

The defined daily dose (DDD) has been used as unit of measurement, in accordance with principles drawn up by WHO and the Nordic Council on Medicines (3). The defined daily dose is established on the basis of the assumed average dose per day for the drug when used for its main indication in adults. Thus, the defined daily dose is a technical term which allows comparison of the consumption of various drugs, nationally as well as internationally.

## RESULTS

### Prescribing frequency

Hypnotics and sedatives were most frequently prescribed and together with antihistamines accounted

Table II. Indications for prescribing. Number of DDD prescribed during the three-year period for females and males

Indications	Female		Male		Total	
	No.	%	No.	%	No.	%
Neurosis	28 703	75.1	5 073	22.3	33 776	55.4
Psychosis	4 154	10.9	7 037	31.0	11 191	18.4
Psychosomatic disease	2 464	6.4	3 252	14.3	5 716	9.4
Insomnia	2 413	6.3	2 933	12.9	5 346	8.8
Alcohol abuse	0	0.0	3 628	16.0	3 628	6.0
Somatic disease	248	0.6	273	1.2	521	0.9
Unknown	239	0.6	519	2.3	758	1.2
Total	38 221	99.9	22 715	100.0	60 936	100.1

Table III. Indications for prescribing. Number of DDD prescribed during the three-year period, by subgroups of psychotropic drugs

Indication	Neuroleptics No.	Minor tranquillizers No.	Hypnotics/ sedatives No.	Anti- depressants No.	Anti- histamines No.	Total No.
Neurosis	1 594	7 477	16 243	6 798	1 664	33 776
Insomnia	0	60	5 027	66	193	5 346
Psychosis	6 224	183	1 480	1 654	1 650	1 191
Psychosomatic	432	3 376	1 080	728	100	5 716
Alcohol abuse	695	492	597	744	1 100	3 628
Somatic	11	0	60	350	100	521
Unknown	8	243	90	67	350	758
Total	8 964	11 831	24 577	10 447	5 157	60 936

for 50% of the total amount of defined daily doses (Table I). Sixty-three per cent of the defined daily doses were prescribed for women (Table II).

*Indications for prescribing*

Neurosis was the predominant indication for prescribing psychotropic drugs, and 85% of the persons in this category were women (Table II). Men received more psychotropic drugs than women for all other indications; alcohol abuse was totally dominated by men. Indications for prescribing are given separately for the various subgroups of psychotropic drugs in Table III.

*Quantitative patterns of the prescribing*

In a great majority of the patients, men and women alike, drug was prescribed as a fixed daily dose (86% of all DDD).

The number of users have been divided according to the number of DDD they received per year in Table IV. Nearly 60% of the patients received less than 50 DDD per year (an average use of less than

one DDD per week). Nineteen per cent received more than 180 DDD per year (an average use of more than one DDD every other day), and this group has been investigated in more detail. These 33 patients represent only three per cent of the total population (N=943), however, they received 71% of all DDD prescribed during the three-year period. Two thirds of these persons were women, and they were evenly distributed in all age groups. Hypnotics were most frequently prescribed (40% of the DDD), and neurosis was the most frequent indication for prescribing.

*Prescribing and patient-doctor encounter*

The majority of psychotropic drugs (63%) were prescribed at indirect consultations which was a consistent finding for all the various subgroups of psychotropic drugs (Table V).

*Seasonal variations in the prescribing*

There was no significant seasonal variation in the prescribing of psychotropic drugs.

Table IV. Defined daily doses per year. The number of users that received 50 or less, 51 to 180, and more than 180 defined daily doses per year

DDD/year	Female		Male		Total	
	No.	%	No.	%	No.	%
-50	64	57.7	41	63.1	105	59.7
51-180	24	21.6	14	21.5	38	21.6
181-	23	20.7	10	15.4	33	18.8
Total	111	100.0	65	100.0	176	100.1

Table V. Number of DDD of all psychotropic drugs prescribed related to doctor encounters

Type of encounter	No.	%
Regular consultation	21 666	35.6
Home call	622	1.0
Indirect contact	38 401	63.0
Unknown	247	0.4
Total	60 936	100.0

### DISCUSSION

The total prescribing of psychotropic drugs at Vaerøy during the three years amounted to 60 DDD per thousand inhabitants per day. If antihistamines are excluded (5 DDD) the number from Vaerøy comprises approximately 70% of the national sales figures (4). As these numbers also include drugs prescribed to inpatients, the level of psychotropic drug prescribing on Vaerøy is probably about the same as in primary health care in Norway (5).

In the country at large, hypnotics/sedatives are the most frequently prescribed categories of drugs. Antihistamines are not always classified as psychotropic drugs, as there are many indications for these drugs other than insomnia. Therefore, it is interesting that antihistamines prescribed for sleeping disturbances constitute nine per cent of the total prescribing, suggesting that these drugs must be included whenever psychotropic drug consumption is investigated.

Neurosis was the indication for more than 50% of the drugs prescribed during the three-year period. Other studies have also shown that neurosis is the diagnostic label most frequently attached to psychotropic drug-users (6, 7). However, neurosis is a term that covers a variety of vague complaints as well as more specific symptoms. This is clearly indicated when the reasons for various drugs prescribed for neurosis are analysed. For example, 66% of all hypnotics/sedatives were prescribed for neurosis, suggesting that the combination of neurotic symptoms and sleeping disturbances is indeed frequent. While the classification of psychiatric disease in general practice is under discussion (8), it might well be that the classification of the drugs offers the best picture of the pattern of diseases.

The role of drugs in the treatment of alcohol abuse is also under discussion (9). Prescribing of a wide variety of psychoactive drugs for alcohol

abuse probably reflects the uncertainty many doctors feel when prescribing drugs to these patients. Psychosomatic and somatic diseases were the reason for prescribing about 1/10 of all DDD. Other studies have found somatic diseases to be a more important indication (10).

While there has been general agreement that neuroleptics and antidepressants should be taken according to a fixed daily dose, the dosage regimen for other psychotropic drugs, especially the benzodiazepines, has been under discussion. In this practice survey, a fixed dose was generally recommended. The patients' actual behaviour is not known.

The majority of users (59%) received less than 50 DDD per year. This finding is in accordance with an earlier study in the same area in the early 1970s (11). This clearly indicates that most of the patients have a moderate consumption of psychotropic drugs. Of note, however, is that 19% of the group received more than 180 DDD per year. This group should be followed closely, both regarding the severity of their illness and their increased drug consumption. These findings are in accordance with other studies, indicating that much of the psychotropic drug use is short term, but that a proportion of the patients are found to use drugs for many months, or even years (12, 13). Little is known about these "chronic" users in general, although Williams et al. have found that prolonged treatment was associated with increased age, previous psychotropic drug use, higher levels of psychological morbidity at the start of treatment, and for women only, social problems as perceived by the general practitioner (13). In this community two thirds of the over-users were women, while the increase with age was insignificant.

Balint (12), among others, has described the repeat-prescription syndrome where drugs are prescribed through the receptionist or by telephone contact with the patient. The actual number of repeat prescriptions in this study is not known, but in retrospect a disturbingly high proportion of the drugs were prescribed on the basis of indirect contact. Although this partly reflects the working conditions for a single doctor in a small community, it nevertheless may lead to unnecessary prescribing.

Prescribing psychotropic drugs is a difficult part of general practice, and evaluating this prescribing is equally difficult. Because objectives and useful guide-lines for the prescribing of psychotropic drugs are lacking, each physician must attempt to

analyse his or her own practice to guard against unnecessary prescribing. A survey of the psychotropic drug prescribing enables the physician to locate possible risk-groups among the patients and possible risky trends in his or her own prescribing habits. In this respect, the two major findings in this study are:

a) One of five users received more than 180 DDD per year. These 19% of patients may represent a high-risk group for chronic use.

b) Sixty-three per cent of the psychotropic drugs were prescribed on the basis of indirect contacts, mainly telephone consultations. This implies a danger for development of "repeat prescription syndromes".

These two groups of patients should be followed more closely and non-pharmacological treatment may be considered.

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