Psychotropic drug use among women

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The consistent 2:1 ratio of women to men in the receipt of prescriptions for psychotropic drugs is reflected in the higher rates for women of neurotic illness, symptoms of both physical and mental discomfort, and help-seeking and drug-taking behaviour. Physicians' perceptions of the problems presented by their male and female patients influence their prescribing of these drugs. Recent statistics in Ontario indicate that greater use of physicians' services by women is an inadequate explanation of the higher rate of prescribing of psychotropic drugs to women. A longitudinal study of a large insured population in Ontario showed that almost twice the proportion of females, compared with males, received a prescription for psychotropic drugs in 1970-71 and in 1973-74, a higher proportion of females received multiple prescriptions for each drug class, and males were more likely than females to have received only one prescription in a year.

Le rapport constant de 2:1 entre le nombre de prescriptions de médicaments psychotropes reçues par les femmes et celui des hommes se reflète dans une fréquence plus élevée chez la femme de névroses, de symptômes physiques ou mentaux, et de leur tendance dans ces cas à rechercher de l'aide et à prendre des médicaments. La perception du médecin des problèmes présentés par ses patients, hommes ou femmes, influence son habitude de prescrire ces médicaments. Des statistiques récentes pour l'Ontario indiquent que la plus forte utilisation des services médicaux faite par les femmes ne peut expliquer adéquatement le taux plus élevé de prescriptions de médicaments psychotropes chez elles. Une étude longitudinale d'une importante population de personnes assurées de l'Ontario a montré que presque deux fois plus de femmes que d'hommes ont reçu une prescription pour des psychotropes en 1970-71 et 1973-74, qu'une plus grande proportion de femmes a reçu des prescriptions multiples pour chaque classe de médicaments, et que les hommes étaient plus susceptibles que les femmes de ne recevoir qu'une prescription par année.

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Numerous studies over time and place have demonstrated that women exceed men in their consumption of psychotropic drugs in a consistent ratio of 2:1,[1-6] suggesting a certain immutability. This paper will present data bearing on the meaning of this ratio, including the results of a longitudinal study of psychotropic drug consumption.

Factors influencing psychotropic drug use

The use of psychotropic drugs is the outcome of a particular relationship — that of the patient to his or her physician.

Sex differences

The prevailing medical views of women conform to the prevailing cultural attitudes regarding the proper role of women.[7] In the last century medical views located most women's problems in their reproductive organs.[7] Modern medicine has moved far beyond this reproductive explanation of female illness to its 20th century equivalent: the weak central nervous system or the psychologically inadequate woman. This position reached its most brilliant exposition in Freud's writings and has gradually become a part of general medicine, though altered recently by a cultural rather than a biologic explanation of causation.

Contemporary thought holds that changes in women's role in society have resulted in increased stress, leading to increases in the rates of psychiatric or psychosomatic illness,[8] hence resulting in increased use of psychotropic drugs. A careful examination of sex differences in psychiatric illness[9] shows a consistent pattern over time and place of women reporting more neurotic illness than men and, by contrast, personality disorders appearing to be the male prerogative. Rates of psychotic disorders are inconclusive.

Available data on men's and women's awareness of discomfort — that is, reported symptoms — indicate that women consistently report more symptoms of both physical and emotional discomfort than men.[4,10,11] Whether these differences reflect a greater sensitivity of women to their emotional and bodily reactions — that is, a greater ability to feel discomfort — or a greater willingness to express discomfort remains a moot point.

Consistent with the finding that women are more likely to report primary symptoms of anxiety and generalized discomfort is the fact that they more frequently seek help for these discomforts.[12,13] Wadsworth, Butterfield and Blaney[11] found that, of those complaining of headache and fatigue, a significantly higher proportion of housewives than employed persons sought help from a physician for these problems. (In addition to housewives, others more likely to use physicians' services were the unemployed and the retired.) Reviewing morbidity studies in the United States Nathanson[14] concluded that "employment has, perhaps, the most positive effects on women's health of any variable investigated to date". She cited studies showing that working women present fewer symptoms than nonworking women of the same age, and report fewer days of disability and less anxiety. Chambers, Inciardi and Siegal's[15] data on drug use substantiate these findings.

What is the relation of reported differences in drug-taking behaviour between men and women and between women of various status? Dunnell and Cartwright[4] found that, with the same number of symptoms reported, men are less likely to take medicines than women. In their national sample 75% of the women and 60% of the men reported taking a nonprescribed medication during the previous 2 weeks, while 50% of the women and 33% of the men had taken a prescribed medicine. For drugs acting on the central nervous system, 10% of the adults (13% of all females and 6% of all males) had taken a tranquillizer, sleeping medication or sedative during that time.

Wadsworth and colleagues[11] also reported more females than males using any medication, though after the age of 50 there was little difference in total medicine-taking behaviour. In her study of general practitioners in Finland, Hemminki[16] discovered "that the proportion of psychotropic drugs prescribed reflected the diagnoses made for the two sexes, with the highest proportion of psychic diseases and obscure functional conditions, along with prescribed psychotropics, occurring in those 35 to 49 years of age". Hemminki's finding regarding the relation of diagnoses to drugs prescribed is particularly important because it pinpoints symptom presentation as a critical variable in the prescribing of psychotropic drugs.

A New Zealand study[17] investigated the relation of marital status to psy-

chotropic drug use among women in 1958 and 1971. In 1958, married women received twice as many prescriptions for psychotropic drugs as either nonmarried women or men. By 1971 the gap had widened: 11.6% of married women, 4.5% of single women and 4.4% of men were using hypnotics, tranquillizers or both daily.

Physicians' perceptions

The experiences and perceptions of physicians affect their prescribing to men and women. The attitudes of physicians, 92% of whom in Canada are male, are influenced by their early experiences, their medical education (recalling that the proportion of female teachers in medical schools is considerably lower than the proportion of women physicians in practice), their contact with peers, continuing education courses, pharmaceutical advertising and promotion and, not least, the patients with whom they interact daily. The pejorative attitudes toward female patients in medical advertisements have been documented.[18-20]

In a 1972 study Scottish general practitioners[21] were asked the frequency with which they perceived that the following problems were raised by their male and female patients: financial difficulties, general feelings of unhappiness, marital discord, disobedience of children, loneliness, fatigue, sleeplessness, headache and inability to concentrate. (The data do not necessarily reflect the objective reality of the interaction within any physician's office, nor do they indicate which person initiated the discussion.) Each problem was viewed as more common among females, and some, such as sleeplessness, general feelings of unhappiness, headache and fatigue were strikingly more frequent. Even financial difficulties were seen as raised more commonly by female patients.

Perhaps more than anything these responses demonstrate the expansion of the bounds of medical care. If financial difficulties, loneliness and disobedience of children are common problems presented to physicians, then it is hardly surprising that psychotropic drug consumption has increased so much during the past decade.

Psychotropic drug use in Ontario

Prescribing rate

An average of about five prescriptions a year are dispensed per capita; since almost one fourth of all prescriptions are written for a psychotropic substance, this translates crudely to just over one psychotropic prescription per person. Prescriptions contain on the average just under a month's supply of drug.

Visits to physicians

The available data on use of physicians' services do not allow computation of the number of visits per individual, nor can the proportion of the Ontario population never attending a physician's office in 1973-74 be specified, although it is estimated at close to 30%. However, the data indicate that, of all visits to physicians in Ontario in 1973-74, 46% were made by males and 54% by females. As might be expected, the highest proportion of visits by males were made by the very young and those over 65, while the highest proportions of visits by females were made by the oldest age group; in the age group 20 to 24 years almost 58% of visits were made by women, in contrast to 42% by men.

Because of the greater longevity of women, the number of visits to physicians by men and women are shown in relation to the actual population distribution in each group in Table I. Since it is unknown whether few people made many visits or many people made few visits during the year, the numbers are only crude estimates for Ontario. The relations demonstrated — namely, that male children visit physicians more often than female children, that this relation is reversed from ages 15 through 64 with the peak difference during the reproductive years, and that a levelling off takes place by age 65 — are consistent with findings reported elsewhere.[22] Overall, for every 100 visits made by males, there are 114 by females.

Table I—Number of visits to physicians per 100 persons in Ontario, by age and sex, April 1973 to March 1974*

Age (yr)	Males	Females	Both sexes
0 - 4	128	125	127
5 - 9	93	90	92
10 - 14	87	86	87
15 - 19	94	115	104
20 - 24	98	133	115
25 - 29	92	122	107
30 - 34	91	119	105
35 - 39	90	115	102
40 - 44	92	114	103
45 - 49	97	115	106
50 - 54	103	119	111
55 - 59	103	114	109
60 - 64	109	115	112
65+	127	128	127
All ages	100	114	107

*Sources:
1. Province of Ontario: *Vital Statistics for 1973*, Table B (estimated population of Ontario, by sex and age groups, 1973), p 13
2. Ontario Hospital Insurance Plan data.

Prescription trends in 1970-71 and 1973-74

Data based on the computerized records of a prescription insurance agency in southern Ontario are summarized in Tables II through V. These cover all prescriptions dispensed during 1970-71 and 1973-74 to the 30 353 individuals who were members of the plan during both years. Because this is not a random sample of the Ontario population, caution must be exercised in generalizing from the data.

These tables show the proportions of males and females during those two periods receiving from 0 to 10 or more prescriptions for the class of drug shown, as well as the percent receiving prescriptions for the same class of drug during both years.

Mixed drugs or compounds containing psychotherapeutic agents accounted in 1970-71 for over 6% of all prescriptions dispensed by this insurance agency, while "pure" psychotropic substances accounted for 18%. Because the indications for the use of these preparations have expanded in recent years to include all varieties of somatic disorders and their emotional sequelae,

Table II—Proportions of persons receiving prescriptions for psychotropic drugs in 1970-71 and 1973-74*

No. of prescriptions	Males (%) 1970-71	Males (%) 1973-74	Females (%) 1970-71	Females (%) 1973-74
0	82.0	85.5	69.2	76.1
1	7.9	6.1	10.3	8.3
2 - 4	5.7	4.8	10.2	8.0
5 - 9	2.6	2.1	5.3	4.3
10+	1.8	1.5	5.0	3.3
Total (and no.)	100.0 (15 775)	100.0 (15 775)	100.0 (14 578)	100.0 (14 578)
% receiving one or more prescriptions	18.0	14.5	30.8	23.9
% receiving a prescription in 70/71 who also received one or more in 73/74	6.9		15.1	

*Source for Tables II through V: Ontario insurance agency data.

their use may well have increased. For example, in 1973 there were as many prescriptions for Stelabid, a mixed psychotropic agent containing isopropamide and trifluoperazine, as for Stelazine, the pure trifluoperazine tranquillizer.[23] Stelabid, however, is termed an antispasmodic drug rather than a psychotropic drug and thus the actual proportion of psychotropic drugs prescribed is decreased. It is impossible to know how the inclusion of the mixed psychotropic drugs would affect these tables but it might be assumed that the proportion of users would be increased by a third in 1970-71 and probably by at least that amount in 1973-74.

All psychotropic drugs: Prescription data for all psychotropic drugs — major and minor tranquillizers, sedative–hypnotics, antidepressants and anorexiants — are summarized in Table II. One finds a consistently higher proportion of users among the females than among the males in each period (18% of the males had received one or more prescriptions for a psychotropic drug in 1970-71, compared with almost 31% of the females in that year, while in 1973-74 the proportions were 14.5 and almost 24%, respectively). In addition, more females than males in each period received multiple prescriptions. Five percent of the females in 1970-71 and 3.3% in 1973-74 received 10 or more prescriptions during the year (they can be assumed to be steady users), in contrast to fewer than 2% of the males in each year. Perhaps the most important information provided by this table is that 7% of the males and 15% of the females received a prescription for a psychotropic drug in the 1st year and also received one or more prescriptions 3 years later; this suggests that, once one has received a prescription for a psychotropic drug one is likely to receive additional prescriptions. Again, note the 2:1 ratio of females to males.

Minor tranquillizers: Similar patterns occurred in the prescribing of minor tranquillizers (largely diazepam and chlordiazepoxide), with close to the same 2:1 ratio of use (Table III). In both years about 9% of the males and more than 15% of the females received a tranquillizer prescription and, again, more females than males received multiple prescriptions. Just under 3% of the males and almost 7% of the females received prescriptions for these drugs in both years.

Sedative–hypnotics and antidepressants: Prescribing of sedative–hypnotic and antidepressant drugs occurred in similar patterns (Tables IV and V). The larger proportion of females than males presenting symptoms of depression is reflected in the higher proportion of females than males receiving antidepressant drugs. Both classes of drugs show a slight decline in prescribing over the 3 years. In 1973-74, 4.9% of the males and 7.1% of the females received a sedative–hypnotic prescription, while 2.2% of the males and 4.9% of the females received one or more antidepressant prescriptions.

Table III—Proportions of persons receiving prescriptions for minor tranquillizers in 1970-71 and 1973-74

No. of prescriptions	Males (%)		Females (%)	
	1970-71	1973-74	1970-71	1973-74
0	91.4	91.0	84.3	84.7
1	4.3	4.5	7.1	6.3
2 - 4	2.7	2.8	5.2	5.5
5 - 9	1.1	1.2	2.1	2.4
10 +	0.5	0.5	1.3	1.1
Total	100.0	100.0	100.0	100.0
(and no.)	(15 775)	(15 775)	(14 578)	(14 578)
% receiving one or more prescriptions	8.6	9.0	15.7	15.3
% receiving a prescription in 70/71 who also received one or more in 73/74	2.9		6.7	

Table IV—Proportions of persons receiving prescriptions for sedative—hypnotics in 1970-71 and 1973-74

No. of prescriptions	Males (%)		Females (%)	
	1970-71	1973-74	1970-71	1973-74
0	93.8	95.1	90.0	92.9
1	3.2	2.4	4.8	3.3
2 - 4	1.6	1.4	2.7	1.8
5 - 9	0.8	0.6	1.3	1.1
10+	0.6	0.5	1.2	0.9
Total	100.0	100.0	100.0	100.0
(and no.)	(15 775)	(15 775)	(14 578)	(14 578)
% receiving one or more prescriptions	6.2	4.9	10.0	7.1
% receiving a prescription in 70/71 who also received one or more in 73/74	2.0		3.3	

Table V—Proportions of persons receiving prescriptions for antidepressants in 1970-71 and 1973-74

No. of prescriptions	Males (%)		Females (%)	
	1970-71	1973-74	1970-71	1973-74
0	97.3	97.8	93.7	95.1
1	1.4	1.1	3.0	2.3
2 - 4	0.8	0.7	1.8	1.4
5 - 9	0.3	0.3	0.9	0.8
10+	0.2	0.1	0.6	0.4
Total	100.0	100.0	100.0	100.0
(and no.)	(15 775)	(15 775)	(14 578)	(14 578)
% receiving one or more prescriptions	2.7	2.2	6.3	4.9
% receiving a prescription in 70/71 who also received one or more in 73/74	0.4		1.5	

Comments

Almost twice the proportion of females compared with males received a prescription in both periods for psychotropic drugs; in addition, a higher proportion of females than males received

multiple prescriptions for each drug class. Males were more likely than females to be dispensed only one prescription in a year. It is highly unlikely that these findings can be accounted for by the number of physician visits alone, assuming that this population visited physicians in a pattern similar to that of all Ontario residents.

Two findings are worth special mention. First, the longitudinal data indicate that, for all psychotropic drugs combined, once one has received a prescription for a psychotropic drug one has a better than even chance 3 years later of receiving another such prescription. Second, the proportions of males and females receiving a prescription for any psychotropic drug were less in 1973-74 than 1970-71. It is impossible to assess the extent to which mixed psychotropics, usually defined as antispasmodics or anticholinergics, have increased in popularity over the time studied. However, the most reasonable explanation would seem to be the decline in the prescribing of sedative–hypnotics, the slight decline in the prescribing of antidepressants and, though not shown in the tables, the major decline in the prescribing of amphetamines and other anorexiants. Prescribing of the minor tranquillizers was remarkably stable over the 3-year period. Thus it is other psychotropics, not the minor tranquillizers, that account for the change.

Concerns about psychotropic drug use

Opposition to reliance on psychotropic drugs for individual solutions to problems of living is a value-laden position, expressed perhaps most succinctly by Lennard and Bernstein:[24]

> There is hardly any doubt that professionals, through their expansion of psychiatric conceptualization to include anxiety, unhappiness, conflict and tension as symptoms of mental disease, have themselves contributed greatly to the very psychic distress they seek to pacify through drugs. Both mental health professionals and the pharmaceutical industry have, by promoting drug-taking, promoted a model that has contributed significantly to the medicalization and technocratization of human existence.

This statement is consistent, in its implicit opposition to use of these drugs, with the opinion of concerned medical workers who see physical problems as consequences of their use. A 1975 article in the *British Medical Journal*[25] pointed out that

> most of the psychotropic drugs in common use have some well known side effects. Barbiturates cause dependence and depression ... tricyclic antidepressants may produce unacceptable atropine-like side effects and cardiac arrhythmia ... the benzodiazepines appear relatively non-toxic but also may produce "hangover" and dependence.
>
> The latest worry is the possibility of interaction between drugs being used simultaneously ... Most psychotropic drugs interfere with the rate at which other drugs are metabolized, and this may lead either to prolonging or reducing the effect of other drugs in use at the same time ... very few doctors either in hospital or general practice carry the knowledge of pharmacology necessary to predict safe and unsafe combinations.

Apart from the problems of dependence, drug interactions and the inadequate training of physicians in pharmacology, these drugs have become the most popular agent for persons attempting suicide.[26]

Conclusions

In this paper I have examined some of the factors affecting the rate at which men and women receive prescriptions for psychotropic drugs. Perhaps most important, I have demonstrated the need to view the problem of use of these drugs in a broader perspective than that of the individual and his or her psychic difficulties.

Women clearly report more feelings of discomfort — more symptoms — than do men. They also try more actively to alleviate these symptoms, whether by attending a physician or by self-medicating. Beyond the sex differences demonstrated, it appears that certain life situations produce more illness and help-seeking behavior. Whether some life situations protect against development of symptoms or only the translation of these symptoms into an illness is not clear. What is clear is that health and illness can be seen as a continuum and that few people anywhere would ever fit the health end when one considers the World Health Organization definition: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

A common view is that stresses arising from conflicting social roles (for example, wife, mother and worker) and pressures from multiple roles are creating problems for women that lead to more illness and consequent increases in use of psychotropic drugs. The evidence to date suggests that contemporary women filling numerous roles have somewhat less illness and take fewer tranquillizers and sleeping medications than women filling the "traditional" female role of housewife.

I have also shown some of the influences on the contemporary physician and the ways these can affect his perceptions of men and women patients. Critical to an examination of sex differences in drug use today is an understanding of the expansion of the medical model to encompass more aspects of our lives. This, along with the development of psychotropic agents, has had a profound effect on the medical profession, not the least of which has been the sanctioning, within a medical model, of a variety of culture-bound views of women, as well as the provision of the tools with which to "treat" the "problems" seen.

References

1. PARRY HJ, BALTER MB, MELLINGER GD, et al: National patterns of psychotherapeutic drug use. *Arch Gen Psychiatry* 28: 769, 1973
2. COOPERSTOCK R, SIMS M: Mood-modifying drugs prescribed in a Canadian city: hidden problems. *Am J Public Health* 61: 1007, 1971
3. PARISH PA: The prescribing of psychotropic drugs in general practice. *J R Coll Gen Pract* 21 (suppl 4): 1, 1971
4. DUNNELL K, CARTWRIGHT A: *Medicine Takers, Prescribers and Hoarders*, London, Routledge and Kegan Paul, 1972
5. HEMMINKI E: Diseases leading to psychotropic drug therapy. *Scand J Soc Med* 2: 129, 1974
6. CHAITON A, SPITZER WO, ROBERTS RS, et al: Patterns of medical drug use — a community focus. *Can Med Assoc J* 114: 33, 1976
7. EHRENREICH B: Gender and objectivity in medicine. *Int J Health Serv* 4: 617, 1974
8. GOVE WR, TUDOR JF: Adult sex roles and mental illness. *Am J Social* 78: 812, 1973
9. DOHRENWEND BP, DOHRENWEND BS: Sex differences and psychiatric disorders. Paper presented at VIII World Congress of Sociology, Toronto, Aug 19-24, 1974
10. PHILLIPS DL, SEGAL BE: Sexual status and psychiatric symptoms. *Am Sociol Rev* 34: 58, 1969
11. WADSWORTH MEJ, BUTTERFIELD WJH, BLANEY R: *Health and Sickness: The Choice of Treatment*, London, Tavistock Pubs, 1971
12. MAZUR M: People in predicament: a study in psychiatric and psychosocial epidemiology. *Soc Psychiatry* 9: 85, 1974
13. MELLINGER GD: The psychotherapeutic drug scene in San Francisco, in *Drug Abuse: Data and Debate*, BLACHLEY PH (ed), Springfield, IL, CC Thomas, 1970, pp 226-40
14. NATHANSON CA: Illness and the feminine role: a theoretical review. *Soc Sci Med* 9: 57, 1975
15. CHAMBERS CD, INCIARDI JA, SIEGAL HA: *Chemical Coping: A Report on Legal Drug Use in the United States*, New York, Spectrum Pub, 1975
16. HEMMINKI E: General practitioners' indications for psychotropic drug therapy. *Scand J Soc Med* 2: 1, 1974
17. THOMPSON AWS: Prescribing of hypnotics and tranquillizers in New Zealand. *Pharm J NZ* 35: 15, 1973
18. PRATHER J, FIDELL LS: Sex differences in the content and style of medical advertisements. *Soc Sci Med* 9: 23, 1975
19. STIMSON G: Women in a doctored world. *New Society* 32: 265, 1975
20. MCREE C, CORDER BF, HAZLIP T: Psychiatrists' responses to sexual bias in pharmaceutical advertising. *Am J Psychiatry* 131: 1273, 1974
21. COOPERSTOCK R: Data from study conducted among sample of general practitioners in Scotland during 1972, on file at Addiction Research Foundation, Toronto
22. DANCHIK KM: *Physician visits, volume and interval since last visit: United States, 1971*, Vital and Health Statistics, ser 10, data from National Health Survey no 97, DHEW publ no (HRA) 75-1524
23. COOPERSTOCK R: International trends in psychotropic drug use. Paper presented at Vth International Congress of Social Psychiatry, Athens, Sept 1-7, 1974
24. LENNARD HL, BERNSTEIN A: Perspectives on the new psychoactive drug technology, in *Social Aspects of the Medical Use of Psychotropic Drugs*, COOPERSTOCK R (ed), Toronto, ARF Books, 1974, pp 149-65
25. HOWIE JGR: Psychotropic drugs in general practice. *Br Med J* 2: 177, 1975
26. WEISMANN MM: The epidemiology of suicide attempts, 1960 to 1971. *Arch Gen Psychiatry* 30: 737, 1974