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A Study of the Use of Antidepressant Medication in General Practice

By D. A. W. JOHNSON

Several surveys (Carstairs and Bruhn, 1962; Shepherd *et al.*, 1966; and Johnson, 1973a) have demonstrated that the treatment of psychiatric disorders in general practice consists principally of prescribing drugs, with relatively little use of social agencies and psychotherapy. Although Shepherd *et al.* (1966) comment that the treatment is often haphazard and inadequate, the published surveys of general practice give little specific information about the prescribing habits of doctors. The present author surveyed the prescribing habits of general practitioners in the treatment of depression in the belief that it is necessary to have this information in order to evaluate the need for education in this clinical expertise, and also to act as a comparison for other surveys which will undoubtedly be carried out in the future to test the effectiveness of the current expansion of undergraduate teaching in psychiatry.

Method

Three separate groups of patients were investigated. Each patient had been diagnosed by their family doctor as suffering from depression. Groups A and B include any patient who presented with a sustained depression of mood, or had been diagnosed by the family doctor as suffering from a depressive illness, providing the diagnosis of primary affective illness was confirmed by the author (80 per cent), and that the patient scored more than 11 on Beck's Depression Inventory. Further details concerning the severity of depression and change in rating scale scores are published elsewhere (Johnson and Heather, 1974). The specific criteria for diagnosis of depression in Group C are unknown beyond that all patients were referred to the hospital out-patient department with a diagnosis of depressive illness.

Group A. One hundred and twelve consecutive patients diagnosed as suffering from a new episode of depressive illness—that is, those who had been free of all symptoms and had had no treatment for at least a year—and attending one of five practices (14 doctors). A detailed analysis of the patients, and doctor-patient relationship, the treatments prescribed and the success of the management regime of the first 73 of these patients has already been published (Johnson, 1973a).

Group B. Eighty-two consecutive patients who had been attending their general practitioner's surgery for treatment for a continuous period of more than three months. The patients were attending one of six practices (17 doctors).

Group C. One hundred and sitxy-seven patients referred by seventy-three different general practitioners to the new patient clinic at two Manchester hospitals.

In the case of groups A and B the patients were interviewed at home within seven days of their consultation. All of group A were revisited after one month and again after three months. Group C were interviewed at the hospital on the day of their initial attendance. In all cases a relative was also interviewed. In groups A and B the general practitioners' records were examined, and in group C the referring doctor's letter was seen. At each interview the medication was identified and a tablet count carried out. In the hospital sample this required a second interview in some cases. The problem of drug defaulting was discussed with each patient. The date of registration by the patient with his present family doctor was noted. Each patient was asked to rate, on a four point scale, how well his family doctor knew him. This rating took into consideration not only the direct

personal contact of the patient with his doctor, but also the total family contact.

A number of general practitioners were selected randomly at post-graduate meetings to answer questions about the source of their knowledge on psychotropic drugs, and the doses they prescribed. Two psychiatric and two non-psychiatric meetings were chosen.

Shepherd *et al.* (1966) tried and failed to obtain a random sample of doctors for their survey of minor mental illness in general practice in London, and they concluded that such a sample was impracticable. The doctors chosen for this survey were all held in high esteem by their colleagues, ran well-organized practices including the use of ancillary staff, and seemed to be representative of general practitioners.

Results

During the period under observation, 4 per cent of all patients seen in the surgeries were thought to be suffering from depression. The ratio of old cases to new cases was 2·75 to 1.

Table I shows the duration of registration with the family doctor. Half the total patients had been registered with their doctor for five years or less, and only a quarter for ten years or more. The group of patients who continued to attend their own doctor for treatment after three months (group B), had been registered with their doctor for an above average period of time compared to the other two groups (A and C).

Table II demonstrates that only one third of patients regarded themselves as well known to their family doctor. Indeed, two fifths of patients thought they were 'hardly known' or 'totally unknown' to their family doctor. It must be remembered that this reflects not only their own relationship with the doctor but also that of the whole family. There is a highly significant trend for the patients who continued to attend their doctor for more than three months (group B) to have been better known to their doctor before the current illness than the other two groups.

Table III shows the various drugs used in the treatment of depression, and in the case of the tricyclic drugs the various doses prescribed. In all groups the tricyclic antidepressant drugs were the most popular; 61 per cent of all patients received one of this group of drugs. The proportion of patients who received a tricyclic drug at their initial consultation (92 per cent) is significantly higher than at subsequent consultations (53 per cent and 47 per cent). Fifty-six per cent of patients prescribed tricyclic drugs received 75 mgm. or more per day, but 29 per cent of patients were prescribed 30 mgm. or less per day. The daily dosage prescribed at the initial consultation (group A) is higher than that at subsequent consultations (groups B and C). The next largest group of drugs used were the minor tranquillizers, 16 per cent of all patients. Six per cent of patients received this group of drugs as their only treatment at the initial consultation compared to 20 per cent in the other groups. The phenothiazines were the only other important group of drugs used. Again their use was higher in groups B and C (9 per cent) than at the first consultation (1 per cent). The monoamine group of antidepressants were never used as the drug of first choice, and only represented 3 per cent of all drugs prescribed.

Table I

Duration registered with general practitioners—percentages

	New patients Group A N = 112	Follow-up patients Group B N = 82	Patients in O.P.D. Group C N = 167
Less than 5 years	49	16	60
5–10 years ..	25	30	25
More than 10 years	26	54	15

Table II

Rating of relationship with G.P. prior to illness—percentages

	New patients Group A N = 112	Follow-up patients Group B N = 82	Patients in O.P.D. Group C N = 167
Well known ..	15	69	23
Known	33	17	35
Hardly known ..	22	9	20
Not known ..	30	5	22

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TABLE III

Drugs used in the treatment of depression in general practice—percentages

	New patients Group A N = 112	Follow-up patients Group B N = 82	Patients in O.P.D. Group C N = 167	All patients N = 361
Patients prescribed drugs	98	100	93	—
Drugs unknown	—	—	17	8
Tricyclic drugs	92	53	47	61
>75 mgm.	25	6	5	12
75 mgm.	32	20	22	25
30–75 mgm.	15	4	6	8
30 mgm. or less	20	23	4	13
Dose unknown	—	—	10	3
MAOI drugs	0	2	4	3
Minor tranquillizers	7	34	13	16
Major tranquillizers	1	6	10	7
Barbiturates	0	0	1	<1
Other drugs	7	5	0	3

All tricyclic drugs shown in doses equivalent to Imipramine.

Two fifths of patients who continued with treatment for more than three months were no longer having individual consultations with their general practitioner, but received their repeat prescriptions without an interview. Most of the patients still actually seeing a doctor made arrangements to see the same doctor within a practice partnership, but only one third of patients said that they would insist upon this procedure.

Drug defaulting remained a major problem in all groups. By the time of the second interview (one month), 65 per cent of new patients had ceased to take their medication regularly; 46 per cent of group B and 54 per cent of group C were not taking the dose prescribed. It must be remembered that the method used to evaluate drug defaulting in this survey is likely to minimize the problem.

Three principal reasons emerged for patients discontinuing their medication.

(a) Side-effects. The experience of side-effects by a patient with any particular drug did not have a simple relationship with the dose taken.

(b) The patient's attitude to the use of drugs, particularly to their use in the treatment of psychological illness. These patients formed two major groups, those who experienced guilt in relying on drugs, and those who had a genuine fear of a future dependence on some form of medication.

(c) A lack of communication between the prescribing doctor and patient, so that the patient was sometimes unaware of the correct dosage or the need for continuing medication, and sometimes had incorrect expectations.

It was significant that problems of memory were only important with minor irregularities and were not amongst the major forms of drug defaulting.

Of the 73 general practitioners questioned as to the maximum dose of tricyclic drugs that they would use, only 21 replied that they would use 100 mg. daily or more as a daily dose in general practice. The almost universal reason given for not using a higher dose was the problem of side-effects. When the same doctors were asked their primary source of information on the use of drugs in psychiatric cases, 19 said from the drug firms, 15 from a medical source (meetings, books or journals) and 39 stated from a variety of sources.

Table IV shows the use of hospital specialist services. In group A 7 per cent of patients were referred to the out-patients clinic in the three month period, but only half saw a psychiatrist and the other half saw a non-psychiatric

TABLE IV

Use of specialized services—patients

	New patients Group A N = 112	Follow-up patients Group B N = 82
Psychiatric O.P.D. ..	4	13
Non-psychiatric O.P.D.	4	11
Psychiatric admission ..	4	9
Non-psychiatric admission	1	0

specialist for reassurance over a somatic symptom. As might be expected, in group B a higher percentage (24 per cent) of patients had consulted a specialist, but the proportion of patients seeing a non-psychiatric specialist in the outpatient clinic remained approximately the same.

DISCUSSION

(a) *Discussion of the present study*

The findings of this survey confirm an opinion expressed in a previous paper (Johnson, 1973a) that the potential for a traditional type family doctor-patient relationship in an urban general practice is strictly limited. Because of the mobility of both doctor and patient the situation where one doctor can care for and grow to know a family over the years, and perhaps generations, no longer exists. The development of partnerships and group practices has further reduced this potential. In this survey only one third of patients thought of themselves or their families as well known to their family doctor, and half the patients had been registered with their doctor for five years or less. The modern patient is beginning to accept the doctrine of the group practice, and only one third of patients would normally insist on seeing a specific doctor within a partnership.

The advantages of the traditional family doctor-patient relationship are clearly seen when the characteristics of the patients who continue to attend their doctor for treatment of depression for three months or more are examined. Johnson (1973a) has already shown that those actually attending the doctor are only a proportion of those still in need of treatment. These patients have been registered with their doctor for a longer period, and they regarded themselves and their families as having been better known to their family doctor before their current illness. It is also likely that a good doctor-patient relationship would have had an influence upon the rate of drug-defaulting. This fact has been previously noted by Porter (1970).

An analysis of the way in which drugs were used in the treatment of depression identifies a trend which is a matter for concern. Although tricyclic drugs were, appropriately, the commonest group of drugs used in each sample of patients, the mode of their use is difficult to understand. While it must be recognized that there is no universally accepted dose regime, most psychiatrists would agree that 75 mgm. per day is the minimum dose likely to be therapeutic, and that this dose should be increased to 150 mgm. or more, per day if the lower dose fails to produce clinical improvement. Recent research has shown that it is likely that a critical drug-plasma level has to be achieved before it is therapeutically effective. Braithwaite *et al.* (1972) have suggested that this drug-plasma level is 120 ng. per ml. and point out that in some patients this level is not achieved with a daily dosage of 150 mgm. Even if a dose lower than 75 mgm. is accepted as therapeutic it would be difficult to justify a dose as low as 30 mgm. per day.

Accepting 75 mgm. per day as a therapeutic regime, it can be seen that the proportion of patients on this treatment dose decreases with time, and amongst the patients who remain on tricyclic drugs the proportion receiving a non-therapeutic dose actually rises in those patients who fail to respond to the drug. This is not only shown in an analysis of the three groups in this present survey, but was also clearly demonstrated in the three-month follow up of group A. The argument is sometimes used that patients treated in the setting of general practice are different from hospital out-patients and require a different treatment. This viewpoint is entirely unsupported by fact. Johnson (1973a) has demonstrated that much of the depression treated in general practice is far from trivial. The same author has also shown that up to half of the patients seen in the hospital out-patients clinic have either not been

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referred by their general practitioners, or have not seen their doctor prior to referral. Often the factors determining hospital referral are unrelated to the medical condition of the patient (Johnson, 1973c). Other authors (Kessel, 1963) have also demonstrated that the process of referral is complex and often unrelated to severity of the illness or need of the patient. Even if the spectrum of cases seen were in fact different there is no evidence that in the clinical response of a patient there is a direct relationship between the severity of the depression experienced and the oral dose or drug-plasma level required to promote improvement. In a substantial minority of cases the tricyclics are abandoned altogether in favour of minor tranquillizers or even major tranquillizers—a group of drugs themselves known to produce depression on occasion (Johnson, 1972)—without the tricyclics being given a proper trial.

Another worrying feature is the high proportion of patients on medication for more than three months who are given repeat prescriptions without seeing their doctor. Even if patients have been prescribed these drugs from a hospital clinic, the patients should be seen to assess progress and to monitor possible side-effects. It is in any case unlikely that drugs would produce any beneficial effect after this period of time, providing the correct dosage has been used, and alternative treatments should be under active consideration.

The very strong implication from the above analysis of the way in which drugs are used in the treatment of depression is that many general practitioners are still unaware of the correct use of psychotropic drugs. This conclusion is supported by the views expressed by the general practitioners questioned. Less than one third of the general practitioners questioned were prepared to prescribe 100 mgm. or more per day. The principal reason given for not using a higher dose was the expectation that such a dose would produce side-effects, and that the patient would then discontinue treatment. In fact this study failed to show a simple relationship between dose prescribed and the incidence of side-effects. The tolerance of patients varies considerably. This result is supported by Braithwaite *et al.* (1972), who found no correlation between drug-plasma levels and side-effects.

If an attempt is to be made to correct or improve the knowledge of general practitioners in the important subject of psychopharmacology, it is essential to know the source of their knowledge. As might be expected, undergraduate teaching played almost no part in the current clinical practice of the doctors questioned. The majority identified a number of sources, but one quarter of general practitioners stated that the pharmaceutical industry's literature and representatives were their only source of information, and a number of other doctors agreed that this was an important souce.

Drug defaulting was identified as a major problem in the treatment of depression, as it is in other psychiatric illnesses (Johnson and Freeman, 1973). The important feature is that the three major causes identified by patients are all likely to be reduced by a doctor who has the trust of the patient and is prepared to spend time discussing the problem. Difficulty in remembering to take a drug was of importance with minor irregularities of the treatment regime rather than with the discontinuance of a drug permanently or for an extended period. When prescribing antidepressive medication it is important to discuss specifically with the patient his attitude to the illness and its treatment by medication; one should give detailed instructions about taking the tablets, including the need to continue the medication beyond the initial supply prescribed, ideally giving a specific date for the next interview.

When the referrals to specialist services are analysed, it is interesting to note that approximately equal numbers are referred to non-psychiatric and psychiatric out-patient clinics. The usual reason for referral to a non-psychiatric clinic is to reasure the patient over some somatic symptom rather than for the exclusion of a physical illness by the doctor.

(b) *Discussion of this study in relation to the others in the series*

This is the fourth report on a series of surveys attempting to evaluate the treatment of psychiatric patients in the community. The first survey (Johnson, 1973b) found that psychiatrists

regarded themselves as largely responsible for the total treatment of their patients, rather than fulfilling a consultative role, even though in 65 per cent of patients the hospital did not offer any form of treatment that was not equally available in the setting of general practice. Another study (Johnson, 1973c) showed that while one third of general practitioners treated their patients energetically before referral, a slightly larger proportion were using the out-patients department as a source of primary care or advice. In an investigation of the treatment of new cases of depression in general practice (Johnson, 1973a) the results showed that the treatment prescribed deteriorated with the passage of time, so that ultimately the outcome at three months was largely uninfluenced by the treatment offered. It was stressed that the fault was not entirely the doctors', but must be shared by the present system of general practice and also by the patients themselves. This present survey again suggests that the traditional family-doctor-patient relationship is no longer operative in urban areas. It also emphasizes an apparent lack of knowledge of psychopharmacology amongst general practitioners, and illustrates not only that the use of drugs is often inappropriate but also that the drug treatment prescribed is likely to deteriorate the longer the patient attends the doctor, irrespective of clinical response.

It is difficult to accept that this lack of knowledge is an accident, or the result of a biased sample, since the practices surveyed were chosen because the doctors concerned were held in high regard by their colleagues. The intention was to discover the prescribing habits of good doctors, not of bad doctors. In any case, the sample of doctors in group C was too large (73 doctors), and the results too consistent with groups A and B, for the results to be explained away so easily. All the facts seem to indicate that even among good doctors knowledge of and interest in psychiatry is strictly limited. It is likely that the local psychiatrists are aware of this situation, and it probably influences their mode of practice. This may explain why they take over the total management of such a high proportion of referred patients. If this conclusion is correct it is most unlikely that the Manchester area is vastly different from most other provincial centres. It would seem important to clarify this issue, since if it is true it must be acknowledged honestly and not concealed for reasons of political expediency. In the redevelopment of the Health Service, the general practitioner is still envisaged as the cornerstone of the service in general, and a key figure in the treatment of the psychiatric patient in the community. It might be more realistic to develop a comprehensive psychiatric service within the existing structure involving only those general practitioners who are trained and interested in the specialty, apart from the initial referral. This would not be such a revolutionary concept, since other specialties such as obstetrics—so recently claimed as the key to good family practice—have already reached such a conclusion. The adoption of this viewpoint should not be taken as an implied criticism of either individual doctors or of any particular group of colleagues. The practice of psychiatry, either within the hospital service or in general practice, is attractive to only a limited number of doctors. This is both understandable and desirable among such a diverse group of professional workers, since the qualities of personality and skills required are very different from those for certain other specialities.

Whatever the solution may be, it is obvious that further operational studies are required in the field of community psychiatry to evaluate the standards of practice actually carried out, rather than that there should be a blind acceptance of the standards claimed.

Summary

An analysis of the treatments prescribed to three different groups of patients suffering from depression suggests that psychotropic drugs are often used inappropriately in general practice. This view is confirmed by the opinions expressed by a group of general practitioners who were also questioned. The reasons for drug defaulting by patients were also explored.

It is suggested that in the setting of urban general practice the potential for the traditional family-doctor-patient relationship is strictly

limited, and that in practice the interest in, and knowledge of, psychiatry and psychotropic drugs is relatively small.

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D. A. W. Johnson, M.Sc., M.R.C.Psych., *University of Manchester, Lecturer in Psychiatry; now Consultant Psychiatrist, Crumpsall Hospital, Manchester, MS 6RB*

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