

Evaluation of an easy, cost-effective strategy for cutting benzodiazepine use in general practice

MARGARET A CORMACK

KIERAN G SWEENEY

HELEN HUGHES-JONES

GEORGE A FOOT

SUMMARY

Aim. This study set out to assess the effect of a letter from the general practitioner, suggesting a reduction in the use of benzodiazepines, and whether the impact of the letter could be increased by the addition of information on how to tackle drug reduction.

Method. Two hundred and nine long-term users of benzodiazepines in general practice were divided into three groups: two intervention groups and a control group. The first intervention group received a letter from their general practitioner asking that benzodiazepine use be gradually reduced and perhaps, in time, stopped. The second intervention group received the same letter plus four information sheets at monthly intervals, designed to assist drug reduction. The mean age of the 209 people was 69 years (age range 34–102 years).

Results. After six months, both intervention groups had reduced their consumption to approximately two thirds of the original intake of benzodiazepines and there was a statistically significant difference between the intervention groups and the control group. Eighteen per cent of those receiving the interventions received no prescriptions at all during the six month monitoring period.

Conclusion. The results indicate that a simple intervention can have a considerable effect on the use of hypnotic and anxiolytic drugs, even with a sample of elderly users.

Keywords: benzodiazepines; drug withdrawal; patient information; patient use of medication; doctor patient relationship.

Introduction

BENZODIAZEPINE prescribing in the United Kingdom has been falling steadily since the late 1970s, but the number of prescriptions issued is still large: in England in 1989, 21 million prescriptions for hypnotics, sedatives and tranquillizers (as defined by the Department of Health) were issued, the vast majority of these being benzodiazepines.¹ Over time, there has been an increase in the proportion of general practice prescriptions for minor tranquillizers issued on an 'unseen repeat' basis.² Characteristically, long-term users of benzodiazepines are older people prescribed hypnotic medication.^{3,4}

For over 10 years general practitioners have received clear advice about the problems associated with prescribing benzodiazepines.⁵⁻⁷ Evidence continues to accumulate that benzodiazepines impair performance, including driving,^{8,9} they affect the memory¹⁰ and have adverse cognitive effects.¹¹ The *British national formulary* states that hypnotic drugs should be avoided in elderly people, owing to the risks of ataxia and confusion.

A number of studies have assessed the effect of various interventions to reduce the consumption of benzodiazepines. Interventions such as anxiety management, counselling or cognitive therapy have been shown to reduce drug taking.¹²⁻¹⁵ Cormack and Sinnott found that a letter from the prescribing general practitioner, advising patients to cut down on their drugs, was as effective as a group run by a psychologist.¹⁶ In a later, controlled study, a similar intervention was found to be as effective as a short consultation with the general practitioner.¹⁷ Both these studies of the effect of a letter from the general practitioner had comparatively small samples of patients, thus limiting the generalizability of the findings. This study, carried out in 1989 and 1990, attempts to assess the effect of such a letter from the prescribing general practitioner to long-term users of benzodiazepines, using a larger sample from the combined populations of three group practices. The effect of the letter is compared with that of a more complex intervention (a series of information sheets) and with the results from a control group who received no intervention.

Method

Design

Long-term regular users of benzodiazepines were defined as patients who were receiving at least one prescription for benzodiazepines every two months and had taken benzodiazepines continuously for at least six months. Long-term users were identified by general practitioners and divided into three groups: two intervention groups and a control group. Within each doctor's list, identified users were allocated to the three groups, roughly matched for age and sex to ensure a representative spread between groups. Beyond this, allocation to groups was random and was performed by the research assistant (H H-J).

Those in intervention group one received a letter from their general practitioner asking them to try to reduce or stop their benzodiazepine medication and advising that this should be done gradually (Appendix 1). Intervention group two received the same letter, followed at monthly intervals by four information sheets giving advice about reducing medication, including practical suggestions for coping without drugs. The control group received no intervention. Prescriptions issued to all groups were monitored for six months. After six months, the control group was offered the more successful intervention.

Sample

The sample was drawn from three group practices with three or four general practitioners and approximately average list size in a city in the south west of England. All the doctors in the practices were already trying to prevent the long-term use of benzodiazepines through discussion of the drugs with their patients. Ten general practitioners with personal lists in the three practices were asked to identify long-term regular users of benzodi-

M A Cormack, MA, MPsychol, PhD, lecturer in clinical psychology and H Hughes-Jones, BSc, research assistant, Department of Psychology; K G Sweeney, MA, MRCP, research fellow, Department of General Practice; and G A Foot, MA, MSc, computing development officer, Computing Unit, University of Exeter.

Submitted: 22 October 1992; accepted: 8 April 1993.

© *British Journal of General Practice*, 1994, 44, 5-8.

azepines. Individuals were identified from their repeat prescribing records, either manually recorded or computer generated. The criteria for exclusion were that the patient was in a current crisis or with an illness for which the drugs were required at the time, had a current diagnosis of psychosis or dementia, was in a position where a hospital doctor or a carer could administer medication, was known to abuse alcohol or was unable to read.

Analysis

In order to compare individuals' benzodiazepine consumption, a calculation of equivalent doses for the various drugs prescribed was made. Diazepam 5 mg was considered as one tablet and equivalents were calculated according to the recommended dosages cited in the *British national formulary*, with advice from a pharmacist.

A baseline benzodiazepine use was established for each patient by taking all the prescriptions issued in the year prior to the date of sending the letter and dividing the total number of tablet equivalents by two (one year of baseline could be considered as all participants in the study had been taking benzodiazepines for at least a year). By considering one whole year, any seasonal variations in prescribing were avoided. Benzodiazepine use in the six months prior to the intervention was also measured as a second baseline to allow for the possibility that the patients were already reducing the drugs they were taking immediately prior to the intervention (without this, reduction could have been misattributed to the intervention).

Because the data from the records were in terms of prescriptions issued, which is only an approximate measure of consumption, a more accurate calculation of tablet consumption was devised. Prescriptions issued just before the time of the intervention would have been consumed partly in the baseline periods and partly in the monitoring period. Prescriptions issued before the beginning of the baseline periods and before the end of the monitoring period would have been only partly consumed during these periods. It was assumed that during the baseline periods the drugs were taken at a regular rate. The amount of the prescription issued prior to the intervention date which would have been consumed at the baseline rate was calculated and the rest of the prescription was allocated to the monitoring period (in cases where people did not have further prescriptions, that is, they responded to the request to stop, this procedure may have overestimated the consumption in the monitoring period). A similar process was undertaken to calculate the amount of a prescription consumed at the end of the monitoring period. Again, this may have led to an overestimate of the drugs consumed as there could have been a gradual reduction throughout the monitoring period. Given that any errors of overestimation would have detracted from finding a significant result attributable to the intervention, the procedure was felt to be satisfactory.

One-way analysis of variance and *t* tests were used to compare tablet consumption between the groups.

Results

A total of 268 people were identified as long-term regular users of benzodiazepines. Fifty nine were excluded from analysis by H H-J — five were incorrectly identified, six had incomplete records, seven died before or during the study, six left the practice before or during the study, 23 fulfilled the exclusion criteria before or during the study and 12 stopped taking benzodiazepines before the study. There was no evidence to suggest a link between the intervention and death or leaving the practice. Thus, 209 people provided data for analysis. The characteristics of the sample are shown in Table 1.

Participants in the study were allocated to the three groups and

Table 1. Characteristics of the sample of 209 people.

Median age (years)	71
Mean age (years)	69
Age range (years)	34–102
Number of women	166
Number of men	43
Ratio of women:men	4:1
Number of people taking:	
One benzodiazepine	177
Two or more benzodiazepines	32
Anxiolytics only	67
Hypnotics only	119
Anxiolytics and hypnotics	23
Median (range):	
Duration of any benzodiazepine use (years)	15 (1–29)
Duration of continuous benzodiazepine use (years)	9 (1–29)
Number of non-benzodiazepine drugs currently taken	6 (0–31)

the result was: letter group, 65 people; letter plus information group, 75; and control group, 69. The discrepancy in numbers between the groups arose by chance, mostly owing to exclusion from the trial after the start.

The number of tablet equivalents taken in the monitoring period was divided by the number taken during the baseline period for each patient in the study (Table 2). The intervention groups reduced to approximately two thirds of their original intake and there was a statistically significant difference in the reductions of the three groups. A *t*-test was performed to determine whether one intervention was more effective than the other and no significant difference was found between the interventions.

Comparison of consumption in the monitoring period and in the six months immediately preceding the intervention produced similar results, but with slightly higher proportions (Table 2). Again, the three groups were significantly different and there was no difference between the intervention groups.

Table 3 shows the pattern of reduction of benzodiazepine use in the three groups. For a proportion of people, the long-term use of benzodiazepines can be stopped completely by a simple intervention from the general practitioner.

There were no sex differences in the degree of success, nor were there differences between the practices. The numbers were

Table 2. Effect of the interventions on benzodiazepine consumption.

Group	Mean ^a . (95% confidence interval)	
<i>Monitoring period divided by baseline consumption</i>		
Letter (<i>n</i> = 65)	0.68	(0.57 to 0.78)
Letter + information (<i>n</i> = 75)	0.63	(0.53 to 0.72)
Control (<i>n</i> = 69)	0.90	(0.80 to 1.01)
	<i>F</i> = 8.54; 2, 206 df; <i>P</i> < 0.001	
<i>Monitoring period divided by consumption in the six months prior to intervention</i>		
Letter (<i>n</i> = 65)	0.71	(0.59 to 0.83)
Letter + information (<i>n</i> = 75)	0.64	(0.54 to 0.75)
Control (<i>n</i> = 69)	0.93	(0.83 to 1.03)
	<i>F</i> = 7.63; 2, 206 df; <i>P</i> < 0.001	

n = number of people in group. *df* = degrees of freedom. ^aMean of number of tablet equivalents taken in the monitoring period divided by the number taken during the baseline period/six month period prior to intervention for each person.

Table 3. Patterns of reduction of benzodiazepine use.

Group	% of people	
	With no prescriptions after intervention date	Who reduced to half or less of original consumption
Letter (<i>n</i> = 65)	23	37
Letter + information (<i>n</i> = 75)	13	49
Control (<i>n</i> = 69)	6	16

n = number of people in group.

too small for comparison of individual general practitioners to be made.

Age correlated negatively with the proportion of tablets taken after the intervention date compared with the baseline period ($r = -0.26$, $P < 0.01$). This indicated that older people did a little better in reducing their consumption than younger people. Although this is a significant result, the correlation coefficient is fairly small, and there would be little clinical significance attached to this finding.

The number of different benzodiazepines taken did not affect the degree of success at reducing drug consumption. Similarly, success was not related to whether the drugs were taken as anxiolytics or hypnotics.

Discussion

Twelve people from the original 268 (4.5%) had stopped taking benzodiazepines in the few months between identification as suitable research participants and the start of the study, and there was also an overall reduction of 10% in drug use for the people in the control group. These figures indicate that a small proportion of people do discontinue or reduce benzodiazepine use after taking the tablets regularly for some time. One reason for reduction may be the influence of the media, but the figures may also reflect the routine work of the doctors in the study in discussing tablet use during consultations.

The study demonstrated that older people are just as good, if not better, than younger people at reducing their consumption of benzodiazepines and thus it is well worth trying to help these people to stop taking their drugs. It is not known whether long-term use of benzodiazepines constituted dependence for the patients in the sample, but the finding that older people did better than younger ones matches the finding of Schweizer and colleagues that elderly people (over 60 years of age) suffered from a less severe withdrawal syndrome from benzodiazepines than their younger counterparts.¹⁸ The adverse effects of the drugs are greater in older populations and smaller doses are necessary.¹⁹ There is thus every reason to encourage older users to reduce medication in order to prevent the unwanted effects of the drugs.

In the sample studied here, the ratio of women to men was 4:1. This ratio is higher than in most other studies, which report a ratio of approximately 2:1.^{4,20} This could be explained by the predominately elderly status of the population, which would be primarily female. Within the group of older women, there are two obvious sub-groups: one may have been prescribed benzodiazepines for bereavement, the other may be a cohort of women who commenced benzodiazepine use at the menopause many years before, as the drugs were used extensively to treat menopausal symptoms.²¹

Nearly twice as many people were taking benzodiazepines as hypnotic drugs as were taking them as anxiolytic drugs. The research literature and media coverage of the use of benzodiazepines have focused on anxiolytics rather than hypnotics. This

study has shown that when intervention is aimed at reducing anxiolytic and hypnotic drugs, success can be achieved with both.

It was interesting to note that there was no evidence of a difference in the effectiveness of the interventions. The information sheets had been produced because previous research¹⁷ had shown that people did not have well-formed strategies when they set about reducing medication. The content of the information sheets had been pre-tested and found to be easy to read and assimilate. Despite this, the information failed to enhance the effect of the initial letter. There was no feedback to the doctors to suggest any reasons for the lack of effectiveness of the information sheets.

This study has two important findings. First, it consolidates the position of a minimum intervention — a doctor's letter — as an effective tool in reducing the consumption of benzodiazepines. Secondly, it demonstrates that a more complex, costly, and time consuming intervention is no more effective.

The implications of these findings are twofold. First, associated with the reduction in consumption is a reduction in iatrogenic morbidity. This is particularly important in elderly people, the largest group using these drugs in this study, in whom confusion and ataxia are associated with these drugs (*British national formulary*). Large numbers of people who have taken these drugs over long periods of time complain of the ill effects of the drugs, and legal action is now being taken against drug companies and doctors who prescribed the drugs. Dependence on benzodiazepines is an important problem and there are indications of cognitive impairments, possibly linked to brain damage, through the protracted use of benzodiazepines.²² The quality of life of many people could be greatly improved by stopping continuous, regular use of these drugs.

Secondly, in England in 1989, nearly nine million prescriptions for sedatives and tranquillizers and over 12 million prescriptions for hypnotics were issued from family health services.¹ The total cost of these prescriptions was nearly £34 million. Assuming, as a conservative estimate, that at least 80% of the prescriptions were for benzodiazepine preparations, the total cost of benzodiazepine prescriptions would have been over £27 million. If, as has been suggested,²⁰ half of the prescriptions issued in any year go to long-term users, and if a 30% reduction in drug use can be expected by sending a letter to long-term users, then a drugs saving of at least £4 million at 1989 prices could be achieved.

The drug reduction of 30% found here was achieved with a hard core of patients who had had repeated advice from their general practitioners to reduce their medication and who had not responded to these more informal overtures. With other patient populations, who may have had little expression of concern about drug use from their general practitioners, it may be expected that an even greater response would occur.

Why is the letter from the doctor effective? It may have been that the letter reached a sub-group of the benzodiazepine consumers who were ambivalent about taking the drugs, and needed a final stimulus to stop, rather like the sub-group of smokers, who need a similar sharp stimulus to increase their will-power.²³ The power of the letter is another illustration of the therapeutic potential of the doctor-patient relationship, first described by Michael Balint in his classic text.²⁴

Are there any other clinical situations in which this kind of intervention might be used? The use of prochlorperazine in small doses in elderly people has been shown to be at best marginally effective, and at worst a source of serious side effects, namely extrapyramidal symptoms.²⁵ This could be a possible target for this kind of intervention.

As far as the consumption of benzodiazepines is concerned, the situation is now quite clear. If all general practitioners in the UK wrote to their long-term benzodiazepine users about trying to

reduce drug consumption, then there would be a substantial reduction in the morbidity associated with their side effects, as well as a considerable saving in the drugs bill.

Appendix 1. Letter from general practitioner received by intervention groups.

Dear ...

I am writing to you because I note from our records that you have been taking... for some time now. Recently, family doctors have become concerned about this kind of tranquillizing medication when it is taken over long periods. Our concern is that the body can get used to these tablets so that they no longer work properly. If you stop taking the tablets suddenly, there may be unpleasant withdrawal effects which you will experience. Research work done in this field shows that repeated use of the tablets over a long time is no longer recommended. More importantly, these tablets may actually cause anxiety and sleeplessness and they can be addictive.

I am writing to ask you to consider cutting down on your dose of these tablets and perhaps stopping them at some time in the future. The best way to do this is to take the tablets only when you feel they are absolutely necessary. Try to take them only when you know that you have to do something that might be difficult for you. In this way you might be able to make a prescription last longer.

Once you have begun to cut down, you might be able to think about stopping them altogether. It would be best to cut down very gradually and then you will be less likely to have withdrawal symptoms.

If you would like to talk to me personally about this, I would be delighted to see you in the surgery whenever it is convenient for you to attend.

Yours sincerely

References

1. Department of Health. *Health and personal social services statistics for England*. London: HMSO, 1991.
2. Williams P, Bellantuono C. Long-term tranquilliser use: the contribution of epidemiology. In: Gabe J (ed). *Understanding tranquilliser use*. London: Routledge, 1991.
3. Rodrigo EK, King MB, Williams P. Health of long-term benzodiazepine users. *BMJ* 1988; **296**: 603-606.
4. Dunbar GC, Perera MH, Jenner FA. Patterns of benzodiazepine use in Great Britain as measured by a general population survey. *Br J Psychiatry* 1989; **155**: 836-841.
5. Committee on the Review of Medicines. Systematic review of the benzodiazepines. *BMJ* 1980; **280**: 910-912.
6. Committee on Safety of Medicines. Benzodiazepines, dependence and withdrawal symptoms. *Current Problems* 1988; 21.
7. The Royal College of Psychiatrists. Benzodiazepines and dependence: a College statement. *Bull R Coll Psychiatrists* 1988; **12**: 107-108.
8. Hindmarch I. Psychotropic drugs and psychomotor performance. In: Murray R, Ghodse H, Harris C, et al (eds). *The misuse of psychotropic drugs*. London: Gaskell, The Royal College of Psychiatrists, 1981.
9. Prescott LF. Safety of the benzodiazepines. In: Costa E (ed). *The benzodiazepines from molecular biology to clinical practice*. New York, NY: Raven Press, 1983.
10. Bixler EO, Kales A, Manfredi RL, et al. Next-day memory impairment with triazolam use. *Lancet* 1991; **337**: 827-831.
11. Golombok S, Moodley P, Lader MH. Cognitive impairment in long-term benzodiazepine users. *Psychol Med* 1988; **18**: 365-374.
12. Giblin MJ, Clift AD. Sleep without drugs. *J R Coll Gen Pract* 1983; **33**: 628-633.
13. Skinner PT. Skills not pills: learning to cope with anxiety symptoms. *J R Coll Gen Pract* 1984; **34**: 258-260.
14. Higgitt A, Golombok S, Fonagy P, Lader M. Group treatment of benzodiazepine dependence. *Br J Addiction* 1987; **82**: 517-532.
15. Jones D. Weaning elderly patients off psychotropic drugs in general practice: a randomised controlled trial. *Health Trends* 1991; **22**: 164-166.
16. Cormack MA, Sinnott A. Psychological alternatives to long-term benzodiazepine use. *J R Coll Gen Pract* 1983; **33**: 279-281.
17. Cormack MA, Owens RG, Dewey ME. The effect of minimal interventions by general practitioners on long-term benzodiazepine use. *J R Coll Gen Pract* 1989; **39**: 408-411.
18. Schweizer E, Case G, Rickels K. Benzodiazepine dependence and withdrawal in elderly patients. *Am J Psychiatry* 1989; **146**: 529-531.

19. Morgan K. Sedative-hypnotic drug use and ageing. *Arch Gerontol Geriatr* 1983; **2**: 181-199.
20. Ashton H, Golding JF. Tranquillisers: prevalence, predictors and possible consequences. Data from a large United Kingdom survey. *Br J Addiction* 1989; **84**: 541-546.
21. Parry HJ, Balter MB, Mellinger GD, et al. National patterns of psychotherapeutic drug use. *Arch Gen Psychiatry* 1973; **28**: 769-783.
22. Lader MH, Ron M, Petursson H. Computed axial brain tomography in long-term benzodiazepine users. *Psychol Med* 1984; **14**: 203-206.
23. Russell MAH, Wilson C, Taylor C, Baker CD. Effect of general practitioners' advice against smoking. *BMJ* 1979; **2**: 231.
24. Balint M. *The doctor, his patient and the illness*. London: Pitman, 1964.
25. Ramsden RT. Balance disorders in the elderly. *Med Dialogue* 1992; **351**: 1-2.

Acknowledgements

The study was funded by a grant from the Devon Northcott Medical Foundation and by a contribution from the Department of Clinical and Community Psychology, Exeter Health Authority. Rachel Kirby gave computer expertise, Sandy Salisbury provided secretarial services, Karen Jackson typed the various stages of the manuscript, Stuart Brooks helped in the initial programming of the database and Ann-Marie Corner assisted in the data entry onto the computer. The University of Exeter Departments of Psychology and General Practice collaborated on this joint venture and encouraged the development of the research. The doctors in the study took part in the planning and design stages and we would like to thank them and their practice staff for their continuing help in the data collection.

Address for correspondence

Dr M A Cormack, Wessex Regional Training Course in Clinical Psychology, Knowle Hospital, Fareham, Hampshire PO17 5NA.

RCGP Publications OCCASIONAL PAPERS

- | | | |
|-----------|---|---------------|
| 58 | CLINICAL GUIDELINES - REPORT OF A LOCAL INITIATIVE | £11.00 |
| | These clinical guidelines, originally developed for local use by the Department of Primary Health Care and known as the Islington Guidelines, have been extensively revised to make them applicable nationwide. Includes chapters on recommended guidelines on common medical conditions, preventive care and drug abuse. | |
| 59 | HEALTH CHECKS FOR PEOPLE AGED 75 AND OVER | £9.00 |
| | This document presents a practical three-stage approach for primary health care teams offering health checks for people over 75. | |
| 60 | SHARED CARE OF PATIENTS WITH MENTAL HEALTH PROBLEMS - REPORT OF A JOINT ROYAL COLLEGE WORKING GROUP | £6.00 |
| | Royal College of Psychiatrists and Royal College of General Practitioners. The two Royal Colleges formed a joint Working Group to review shared management of psychiatric problems and to make a number of suggestions about the best way to share care for the patient's benefit. | |
| 61 | STRESS MANAGEMENT IN GENERAL PRACTICE | £9.00 |
| | Report of a RCGP Working Party which treats the subject of stress in patients academically, bringing together new research analysis from general practitioners, psychologists, psychiatrists and a social scientist. | |
| 62 | THE APPLICATION OF A GENERAL PRACTICE DATABASE TO PHARMACO EPIDEMIOLOGY | £10.00 |
| | The Birmingham Morbidity and Prescribing Information Project was set up to evaluate the feasibility and cost of capturing morbidity and prescribing data, to analyse the data in order to provide basic statistics, and to investigate the possibilities afforded for post-marketing surveillance. The problems of setting up such a programme are described and the need for quality in practice computerisation systems is discussed. | |

All of the above can be obtained from the RCGP Sales Office, 14 Princes Gate, Hyde Park, London SW7 1PU. Tel: 071 823 9698 (or 071 225 3048, 24 hours, for Access and Visa orders only). Cheques should be made payable to RCGP.