MEDICAL AUDIT

Looking after diabetics in general practice: a trainee project

B. R. G. FLETCHER, MRCP (UK), MRCGP
Vocational Trainee, Warwickshire

SUMMARY. An audit of diabetics in one general practice indicates that diet did not play as full a part as expected in management. More than 10 per cent of patients cannot test their own urine properly. Management of the diabetics may be improved by a surgery organized especially for them.

Introduction

ENCOURAGED to do a project in my trainee year, my curiosity about the questions 'how well do we look after diabetics?' and 'should we arrange separate sessions for them?' led me to design a simple study. Its scope was severely limited, so that I could complete it within the year, and so that it would not involve too much time. Its results may be of wider interest as a form of audit in one practice of the standard of care of diabetics.

The practice in which I trained is a four-man rural group practice based on a medical centre. It is well organized. It has an age-sex register and a chronic diseases register. The case records have been thoroughly ordered, organized, and are well kept in EC6 format.

These resources produced a list of 100 patients on the register of chronic diseases listed as diabetic in a practice of 7,428 patients. Problems associated with generating lists of patients from a chronic diseases register are well known. In this case the word diabetic was used as a label or title for a problem, not a medical diagnosis.

Aims

I tried to answer the following questions:

1. Can patients demonstrate their ability to test their own urine?

© *Journal of the Royal College of General Practitioners,* 1977, **27,** 85-88.

2. With what accuracy could patients tell me their treatment?

3. Should the partners establish a diabetic clinic in the medical centre, for the benefit of their patients?

Method

A simple questionnaire was designed which included information about the age, sex and occupation of each patient followed by space for recording a statement from the patients, and separate from the record of their diet and drug treatment. After this a number of questions followed about the completeness and availability of their 'Clinitest' apparatus, their technique of testing their urine, and whether or not they kept a record of the results.

After the partners in the practice had been consulted and their permission obtained, their advice was sought about patients who had been unable to attend the medical centre. I visited them at home. The remaining patients were then sent a letter requesting them to attend a specially arranged surgery at the centre. The letter also contained a brief explanation of why I wanted them to come, as well as a request to bring a urine sample and their 'Clinitest' apparatus with them. Many came at first asking, which reflects well on their willingness to co-operate.

The surgery was run with the practice nurse. I saw the patients myself first of all, explained the purpose of the enquiry, and then I asked them the questions on the questionnaire. They then saw the nurse, or myself if she were not available, and their 'Clinitest' was checked. The nurse watched them test their own urine. At this point, if necessary, they were given advice about any aspect of their diabetic management in which they seemed lacking. The purpose of this last exercise was so that at least one review of all the diabetics would have been done when the study was complete.

Samples for blood sugar estimation were not taken for several reasons. First, one random value cannot replace urine testing, which indicates a pattern of con-

trol over a period. Secondly, for my simple study the expense and laboratory time involved would have outweighed the value of the additional information gained. Thirdly, and most important, one random blood sugar would not answer any of my three original questions. Once the patients' own management of their diabetes is as good as one thinks it ever could be, then random checks on blood sugar levels may be introduced as a further measure of control (Alstead *et al.*, 1971).

Results

Of the 100 names from the chronic diseases register 24 patients were excluded from the study for the reasons stated in Table 1. Seventy-six patients, all proven diabetic, remained; all 76 were seen for the study (1·0 per cent of the practice population). Sixty (79 per cent) responded to the first request to attend. Seventy-one (92 per cent) knew they were either on tablets or insulin. Those taking tablets knew the correct number to take and the times to take them. Since the labelling of bottles with the names of preparations is relatively recent I did not expect the patients to know the name. Some did; many more, however, could describe the appearance of their pills fairly accurately. Those taking insulin, however, were only judged to know their drugs if they knew the strength, type and the dose in marks, as well as the right time of day to inject themselves. Alternatively they might know the type of insulin and the dose in units, as well as the times to give it.

Five patients (8 per cent) did not know their drugs; three of these were on insulin.

More important was the fact that only three patients were on diet alone. This is a much lower figure than one might expect (Davidson and Macleod, 1976). Twenty-five (33 per cent) of all the patients could be said to be on a diet in that they regarded themselves as being on one. Fifty-one patients (67 per cent) did not regard themselves as being on a diet, although ten of these had dietary recommendation recorded in their notes. I considered any reference such as restricted carbohydrate diet or the number of calories recorded in the notes as evidence of the diet to be followed. The doctors may well have educated their patients about diet; however these facts have not been recorded in their notes and the patients certainly no longer strictly adhere to any diet. Admittedly many did say they just avoided certain foods or that they had had a diet in the past and they now knew what they could and could not eat.

Nine patients (12 per cent) could not test their urine properly. Sixty-seven (88 per cent) could, although only 21 (28 per cent) recorded their results properly.

Finally, three patients appeared to be receiving no treatment at all. They were all diabetic as shown by oral glucose tolerance test. Two of these were aged 62 and both were apparently well. One 45-year-old man had been taken off treatment with tolazamide and was being observed. His records show that treatment was subsequently re-started (Laurence, 1973).

Table 1. Results of questionnaire.

Number of diabetics on chronic diseases register	100			
Exclusions				
Not proven diabetic (including 2 non-attenders)	8*			
Dead	8			
Moved	4			
Others eg. permanently in hospital	2			
Other non-attenders	1			
Schizophrenic unable to co-operate	1			
	24			
Completed questionnaires for analysis				
1st attenders	60	*(79)*		
Subsequent attenders	13	*(17)*		
Visited at home	3	*(4)*		
	76			
On insulin	28	*(37)*		
On oral treatment	42	*(55)*		
On diet alone	3	*(4)*		
Not treated	3	*(4)*		
Patients knowing their drugs	71	*(92)*		
Patients not knowing their drugs	5	*(8)*		
	Diet recorded in notes			
On diet according to patient	Yes	No		
Yes	13 *(17)*	12 *(16)*		
No	10 *(13)*	41 *(54)*		
Can test urine	67	*(88)*		
Cannot test urine	9	*(12)*		
Record of tests available and satisfactory	21	*(28)*		
No record of tests or record unsatisfactory	55	*(72)*		

*Includes one non-diabetic patient with peripheral neuropathy.

Discussion

Although most patients could test their urine (67 patients; 88 per cent) 12 per cent could not. Four of these were over eighty, two patients did not even have complete kits. Two had limited understanding and abilities. Others used variable unmeasured quantities of each fluid. One or more of these reasons applied to each person. Minor mistakes such as handling tablets were disregarded.

This inability was remedied immediately, but indicates that occasional checking of patients' ability to test their urine would be worthwhile. It was noticeable too that results of urine tests were rarely written in the doctors' records at a consultation, perhaps this means that the doctors themselves regard this as unimportant. It may mean that they never even ask to see a patient's urine test charts. This may have resulted in the patients ceasing to bother to record such tests. I think this should be improved (Alstead *et al.,* 1971).

Patients' knowledge of drugs

Seventy-one patients (92 per cent) knew what tablets they were taking, and were continuing to take treatment. This level of co-operation in taking drugs is very high indeed. It is remarkable that it contrasts with the partners' experience in this practice of patients requiring to take drugs for high blood pressure. Each year ten per cent of these patients stop taking the drugs which they are prescribed.

Of the five patients who did not know their drugs, three were on insulin. One did not know the type of insulin he was on. One said that he was taking 'Lente' but his notes did not confirm this. One patient said that he took protamine zinc insulin but in fact he was on 'Lente'. Of the two patients who did not know their tablets one took three tablets of tolazamide each day, one with each meal instead of one each morning, and the other patient took one tolazamide tablet each evening instead of two each morning. Furthermore, few patients taking tablets knew the names of their drugs; I think that all patients should know the name as well as the dose of their tablets. I think the reasons for this are fairly obvious, in particular in an emergency where the doctor attending has not met or treated the patient before.

Diet

More important however is the fact that diet seemed to play much less of a role in management than it should. About 30 per cent of older diabetics can be controlled by diet alone (Laurence, 1973). We have been reminded recently that many maturity-onset non-ketotic diabetics can be managed in this way (Doar *et al.,* 1975). Also oral agents may be more hazardous than was previously thought (Stowers, 1976).

I think this indicates that not enough attention has been paid by the practitioners to the diets of their diabetic patients. As a new reviewer of established diabetics I had not been involved in their initial treatment or education. The patients clearly require more and better explanation as well as clear recording of their diets. This is another set of problems which this study has defined simply.

Separate session for diabetics

The greatest improvement would be to ask the dietician to see all the diabetics. This would be most practical and economical for the dietician in one session and is one argument in favour of a special surgery for diabetics. It remains to be seen whether one could maintain over a long period as close an adherence to diet as has been suggested. Nevertheless there is clearly room for great improvement.

Nearly all the diabetics in the practice were reviewed fairly regularly by their own doctors during normal surgery. However, in answer to my third question I think this study shows some strong arguments in favour of a separate surgery for diabetics in this practice. At present patients seen in a normal consultation are not receiving good enough care. There may be many reasons for this such as lack of time, interest or facilities. By setting aside a special clinic the doctor's attention is focused on diabetes, he can give more time to each patient, and it could fall to one partner of a group practice with an expressed interest. Its frequency might be once a month or once every six weeks. The length of time between review would be decided by the doctor, and the patient instructed to make a new appointment before leaving the premises.

The practice nurse should also be directly involved with a schedule of tasks which would include checking that patients know how to test their urine properly, weighing them, and possibly taking blood samples for estimation of blood glucose. The detailed tasks would require further definition, probably in the practice, to ensure adaptation to local circumstances. The clinic I ran saw patients at the rate of six an hour. This allowed more than ample time to conduct the study. One questionnaire passed between doctor and nurse. A specially designed chart of appropriate size (EC6 or A4) to record drugs, diet, test results, doctor's and nurse's comments, would enable quick accurate recording and recall of information. I think a dietician should also be an integral part of this clinic.

In the area where the study was conducted the chief dietician at the local hospital was contacted and expressed a willingness to come to the group practice premises for a half-day session once a month. A consultant might be invited to visit the clinic perhaps once yearly to give advice. This may not seem necessary and would depend on the local consultants. Some hospital diabetic clinics insist on six-monthly or yearly reviews for their patients. With these services in a group practice, the review might replace the hospital visit. Liaison at least with a local consultant would help ensure a source of new ideas in diabetic management. The estimated frequency of the clinic might seem unnecessarily high but it takes account of the necessary repeated attenders as well as those who only require periodic but regular reviews. These repeated attenders can be dealt with in the usual surgery but the extra facilities gained by this method of caring for them are denied to them when they may most need them.

There are arguments against such clinics. They require enthusiasm and co-operation from all partners, which may not be forthcoming. They lack the variety

of normal practitioner-patient contact. I think this is offset by the likely higher degree of supervision resulting initially, and from that will come a better level of informed co-operation with diabetics and their care. It remains unproven, but seems likely, that the better the control the more one can delay the onset of complications (Stowers, 1976). There is also a parallel with general-practitioner antenatal clinics. It can be argued that patients would be unwilling to attend such clinics, however the high proportion who attended at the first request (79 per cent) seems to indicate otherwise. Although it could have reflected response to a personal letter or new interest by the doctor.

References

Alstead, S., MacGregor, A. G. & Girdwood, R. H. (1971). *Textbook of Medical Treatment* 12th edition. Edinburgh & London: Churchill Livingstone.

Davidson, S. & Macleod, J. (eds) (1976). *Principles and Practice of Medicine* 10th edition. Edinburgh & London: Churchill Livingstone.

Doar, J. W. H., Thompson, M. E., Wilde, C. E. & Sewell, P. F. J. (1975). *Lancet*, **i**, 1263-1266.

Laurence, D. R. (1973). *Clinical Pharmacology* 4th edition. Edinburgh & London: Churchill Livingstone.

Stowers, J. M. (1976). *British Medical Journal*, **1**, 509-511, 573-574.

Acknowledgements

I wish to thank Sister Y. Shepard, the practice employed nurse, for the invaluable co-operation and support she gave me throughout the study.

I also wish to acknowledge the considerable help from my trainer, Dr Guy Harris, without which this work would not have been done. This was twofold; firstly, in the enormous amount of work that went into the chronic diseases register, as well as ordering the case records, and secondly, his continued help and encouragement throughout this project.

Psychiatry and the general practitioner

The general practitioner in his capacity as 'primary physician' is a key figure in the medical services of many countries, and as such, has a major part to play in mental health care. To do so effectively, however, he requires much better psychiatric training at both the undergraduate and postgraduate levels. He must also collaborate more closely than hitherto with public health and social agencies, as well as with psychiatric specialists.

These were among the conclusions of a working group on psychiatry in general practice convened at Oslo by the WHO Regional Office for Europe from 10 to 13 April 1973. The aim was to review the general practitioner's contribution to mental health care in Europe and to draw up guidelines concerning his role in the mental health services of the future.

Reference

WHO Chronicle (1974). **28**, 65-70.

JOURNAL PUBLICATIONS

The following have been published by the *Journal of the Royal College of General Practitioners* and can be obtained, while still in print, from the Royal College of General Practitioners.

REPORTS FROM GENERAL PRACTICE

No. 15 Teaching Practices	£1.00
No. 16 Present State and Future Needs of General Practice (third edition)	£1.50
No. 17 The Assessment of Vocational Training for General Practice	£2.25

SUPPLEMENTS TO THE JOURNAL OF THE ROYAL COLLEGE OF GENERAL PRACTITIONERS

Transport Services in General Practice	75p
General Practitioners and Abortion ..	75p
General Practitioners and Contraception	75p
General Practice in the London Borough of Camden	75p
The Renaissance of General Practice	75p
University Departments of General Practice	75p
The Medical Use of Psychotropic Drugs	£1.75
A General-Practice Glossary	£1.00
Hostile Environment of Man ..	£1.25
Visit to Australia and the Far East ..	£1.00
Prescribing in General Practice ..	£3.00

OCCASIONAL PAPERS

No. 1. International Classification of Health Problems in Primary Care	£2.25
No. 2. An Opportunity to Learn ..	£2.25

Please send your orders to:

The Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU.