Audit of the care of patients with epilepsy in general practice

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SUMMARY

Background. *Previous studies have shown that there is great potential for improving the management of patients with epilepsy.*

Aim. *To identify all patients with epilepsy, to evaluate and audit their care in relation to an annual review, to document seizure frequency and appropriateness of daily therapy to aid compliance and to propose strategies to improve these and other aspects of epileptic care.*

Method. *An audit of the care of patients with epilepsy was undertaken in two King's Lynn practices with a combined population of 22 500. Principles for the management of epilepsy were established. From these principles, the following standards were agreed: 75% of patients on treatment for epilepsy should be seen every year, 75% of patients should have their seizure frequency documented, and 75% of patients should take their anti-epileptic drugs no more than twice daily. As a result of the first audit cycle, changes were made in the documentation and advice regarding treatment relating to these standards.*

Results. *The first audit cycle showed that 83% of patients had been seen at least once in the previous year, that documentation of seizure frequency existed for 51% of patients in the past year, and that 63% of patients were taking their treatment no more than twice daily. The evaluation was repeated 22 months later and an overall improvement was demonstrated in the first two results: 95% of patients had been seen in the past year, 93% had had their seizure frequency documented; however, only 66% of patients were taking their treatment twice daily or less.*

Conclusion. *Call and recall, and documentation of seizure frequency were improved by this clinical audit. However, alterations in daily therapy appeared difficult for a variety of reasons; for example, therapy might have been initiated by a hospital specialist, and patients in a stable condition might have been apprehensive about changes. In order to improve the care of patients with epilepsy, a primary care team approach is desirable within a structure of good specialist services.*

Keywords: epilepsy; audit; primary care.

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Introduction

THE management of the care of patients with epilepsy has important implications for all aspects of their daily lives, especially daily activities such as bathing, vocational and leisure pursuits. There are areas of continuing concern with regard to therapy and compliance. Previous studies[1,2] have shown that there is great potential for improving the management of these patients, with particular reference to accurate diagnosis, appropriate therapeutic intervention, and well-documented, careful, ongoing support.

The aim of the present study was to identify all patients with epilepsy, to evaluate and audit their care in relation to an annual review, to document seizure frequency and appropriateness of daily therapy to aid compliance and to propose strategies to improve these and other aspects of epileptic care.

It was hoped that improvements in the management of patients with epilepsy would be demonstrated, and that these would help generate plans for other important elements of care.

Method

In 1993, two neighbouring general practices joined together, with the support of the Norfolk Medical Audit Advisory Group (MAAG), to audit the care of patients with epilepsy. Principles for the management of these patients were devised from several sources[3,4,5,6] with advice from two neurologists. Standards for this study were chosen from these principles. The study identified patients with epilepsy and, through an audit process, three aspects of their care were assessed: annual review, seizure documentation, and frequency of daily therapy.

The audit focused on all known patients with epilepsy in two King's Lynn practices with a combined population of 22 500: St James' House (SJH) surgery, a nine-partner, fundholding, training practice, with a list size of 18 300; and Fairstead surgery, a two-partner practice with a list size of 4200. The practices had previously worked together to undertake mutually agreed audit with the support of Norfolk MAAG. Neither practice had previous involvement in structured epilepsy care. An audit group consisting of the practice manager, a practice nurse, an audit clerk and two doctors from SJH surgery, and an audit clerk and both doctors from Fairstead surgery met for the initial planning meetings to organize literature searches and arrange contacts with neurologists. All of the doctors from both surgeries, however, attended meetings to agree proposed standards, to review the results from the first cycle, and finally, to attend a presentation of the results of the second cycle.

The audit group devised the following principles of management:

- Patients suspected of having epilepsy should have the disease confirmed by a specialist through appropriate investigations.
- The aim of the treatment is to keep the patient seizure-free.

- Seventy to eighty per cent of patients should be controlled with one anti-epileptic drug (AED); a second drug to be administered only if seizures continue.
- Medication should be given once or twice daily to aid compliance.
- Patients with poor control should be promptly referred back to the specialist.
- Where appropriate, serum drug levels should be measured when patients are initiated on AED therapy. This is to confirm compliance, to ensure the drugs are in the therapeutic range, and to avoid over-dosage. (Serum drug measurement is valuable for phenytoin, carbamazepine, phenobarbitone and primidone.)
- Yearly full blood counts are recommended for those patients on carbamazepine.
- Patients on AEDs should be reviewed, and medical records documented annually by their general practitioner (GP) or an assigned member of the team.
- Patients should have access to information relating to daily living skills (for example, driving, employment, cycling and swimming) and to their personal health care (including bathing, sleep, diet, exercise, alcohol intake, illness, contraception, pregnancy, breast feeding and the inheritance risks associated with epilepsy).

The following standards were then agreed:

- Seventy-five per cent of patients with epilepsy should be seen annually by their GP,
- Seventy-five per cent of patients should have documentation of seizure frequency in the preceding year, and
- Seventy-five per cent of patients should be taking AED therapy no more than once or twice daily.

These principles, criteria and standards were accepted by all doctors in both practices.

The study was restricted to patients with epilepsy who were currently taking AEDs. These patients were identified by a computer search for AEDs. The clinical records were scrutinized in order to exclude patients who were taking AEDs for reasons other than epilepsy. These records were reviewed by the audit clerks to check whether the patient had consulted the doctor for any reason in the past year, and to check for seizure documentation during the same period. This information was recorded on the computer on a modified epilepsy management template. The computer records were then searched to establish how many patients were receiving their AEDs more than twice daily.

The results of this first cycle were presented and discussed at a meeting attended by all the doctors as well as the audit group. The doctors agreed to review the patients annually, improve the recording of seizure frequency, and encourage patients to take their AEDs no more than twice daily. A hard copy of the epilepsy screen was placed in the notes to act as a reminder. After the review, clinical records were passed on to the audit clerk for computerization. The audit clerk periodically reminded doctors about their agreed plans.

The audit was repeated 22 months later. Patients were classified according to seizure frequency as follows:

- Poor control — one or more seizures per month in the past 12 months.
- Moderate control — between one and 11 seizures in the past 12 months.
- Good control — no seizures in the past 12 months.

The results were presented to both practices in the presence of a consultant neurologist with an interest in epilepsy, and a clinical nurse specialist; these commented on the results and answered questions on the diagnosis, treatment and management of patients with epilepsy.

Results

The results are summarized in Table 1. The first audit cycle revealed a combined total of 150 patients taking AEDs: 121 at SJH surgery (a prevalence of 6.59 per 1000), and 29 at the Fairstead surgery (a prevalence of 6.9 per 1000). Thus, the combined prevalence was 6.65 per 1000.

Eighty-three per cent of the patients had been seen annually, thus satisfying the predetermined standard (75%). Documentation of seizure frequency in the past year was significantly better in the smaller Fairstead practice (93%) than in the larger SJH practice (40%), which failed to reach the standard. Neither practice reached the standard relating to the frequency of daily AED therapy. In the combined population, 63% of patients were taking their AEDs once or twice daily.

Over the 22-month period between audit cycles, the number of

Table 1. A comparison of the results from both audit cycles

	First cycle: September 1993			Second cycle: July 1995		
Details	Fairstead	SJH	Combined	Fairstead	SJH	Combined
Total number of registered patients	4200	18 300	22 500			
Total number of patients with epilepsy	29	121	150	26	137	163
Prevalence of epilepsy (number per 1000)	6.9	6.59	6.65			
Total number of patients with epilepsy seen last year	27 (93%)	98 (81%)	125 (83%)	26 (100%)	129 (94%)	155 (95%)
Total number of patients with documentation of seizure in past year	27 (93%)	48 (40%)	75 (50%)	26 (100%)	126 (92%)	152 (93%)
Total number of patients well controlled	22	28	50	21	90	111 (68%)
Total number of patients moderately controlled	2	11	13	5	24	29 (18%)
Total number of patients poorly controlled	3	9	12	0	12	12 (7%)
Total number of patients - treatment once- or twice-daily	15 (52%)	80 (66%)	95 (63%)	13 (50%)	94 (69%)	107 (66%)

patients with epilepsy increased by 13 from 150 to 163. This was due to 16 new patients with epilepsy attending the SJH practice. Three patients from the Fairstead practice moved out of the area.

The combined percentage of patients with epilepsy seen in the past year increased from 83% to 95%. There was a large increase (from 50% to 93%) in the number of patients whose seizure frequency was documented in the past year. This was due to the improvements made in recording procedures at SJH (40% to 92%).

Patients could now be classified according to seizure frequency as follows: 111 (68%) were well controlled (no seizures in the past 12 months), 29 (18%) were moderately controlled (between one and 11 seizures in the past 12 months), and 12 (7%) were poorly controlled (one or more seizures per month in the past year).

Neither practice reached the standard relating to frequency of daily AED treatment. The percentage of patients receiving their treatment twice daily or less increased only slightly from 63% to 66%. Fifty-six patients were taking their treatment three times daily or more. The AED therapy used by these patients was as follows: carbamazepine (n=19), phenytoin (n=16), sodium valproate (n=14), phenobarbitone (n=9), diazepam (n=1), lamotrigine (n=1), clobazam (n=1), primidone (n=5), gabapentin (n=1). (Some patients were taking more than one AED.)
(question for author: Mysoline is proprietary name for primidone, so aren't they the same thing and therefore should have the same number?)

Discussion

The proportion of patients with epilepsy and the incidence rate were in keeping with previous studies. A typical GP will have 10 patients receiving treatment for epilepsy, the usual prevalence rate being 5–10 cases per 1000. In a general practice population of this size, 10–20 new cases of epilepsy per year would be expected, with each GP expecting one or two new cases per year.[7,8]

The first audit cycle revealed that the standard in relation to a yearly consultation had been achieved: 86% of patients had been seen in the past year. This compares favourably with a 1993 community-based study of people with epilepsy, which highlighted the fact that most patients with epilepsy had not been seen by their GP in the previous year.[9] Standards relating to documentation of seizure frequency and daily therapy were not achieved. It is well recognized that documentation of seizure frequency is poor, with some studies reporting figures as low as 20%.[10] The absence of documentation suggests that epilepsy was not the focus of the consultation. The reasons for this are likely to have been that the patients were consulting for reasons other than epilepsy, that their condition was stable, or that there was not enough time available during the consultation. It may be that neither patients nor doctors wish to draw attention to this stigmatized condition. Epilepsy may have been discussed but not recorded. Studies of doctors' records suggest that history and advice given are recorded much less than tests, therapy or biological measurements.[11] However, documentation of seizure frequency may be important medico-legally. Neither practice had attempted to record information in a structured fashion, which might have improved the process of documentation.

Consultation rates and documentation of seizure frequency were significantly better in the smaller practice. The most likely reasons for this were that both partners from the smaller practice were directly involved in the audit from its inception, and this may have influenced their behaviour before the first cycle. Mutual agreement, communication, and a sense of ownership of audit activity in such a small practice are easier. In contrast, the larger practice delegated audit activity to a small group consisting of only a few members of the practice team.

The second cycle revealed considerable improvements in consultation rates and documentation of seizure frequency. This suggests that once the shortcomings were revealed, the processes of call and recall and note-keeping improved. This was facilitated by the presence of a hard copy of the epilepsy screen in the notes, and by the involvement of the audit clerk, who provided an effective reminder to doctors. While documentation had improved, neither practice had significantly altered the frequency of AED therapy administered during the day. Almost invariably, AED therapy can be given once or twice daily making compliance easier, but 34% of patients were still taking their treatment three times daily or more. However, both phenobarbitone and phenytoin can be given once daily and sodium valproate and carbamazepine can be given twice daily. Thus, alteration in drug treatment appears to be difficult. There are many possible reasons for this. For example, doctors and patients may not wish to interfere with treatment where the condition is stable or where AEDs have been initiated at secondary care level; or drug therapy may not have been addressed during the consultation. This aspect of the study may not have been sufficiently discussed at the planning meetings. Other barriers to change have also been described.[12] These include poor communication, patients managed by prescription only, and poor patient knowledge. GPs may consider the condition complex, and some patients may not feel confident about their GP's expertise.

As a result of this work, further developments are planned. First, successive audits have led to reduced seizure rates and better quality of life;[11] therefore, this model could be used to audit other standards chosen from the principles of management (such as those relating to accuracy of the original diagnosis, previous investigations, compliance, polypharmacy, effect of the condition on daily lives, and counselling), as well as to re-audit the original standards.

Secondly, there is to be a critical re-evaluation of the 12 poorly controlled patients and 29 moderately controlled patients, with emphasis on the accuracy of the original diagnosis and the need for further investigation and expert assessment. At present, the demand for neurological services exceeds their provision[12] and, as a result, there are long waiting times, and opportunities for detailed counselling and follow-up are limited.[13] Thus, collaboration with a neurologist is required in order to develop a locally agreed framework of shared care.[8]

Thirdly, in conjunction with a research fellow at the National Society for Epilepsy (NSE), a detailed patient questionnaire is being carried out. This will subjectively assess the effect of epilepsy on patients' daily lives within the community, thereby helping to further the development of a clinic for patients with epilepsy within general practice. This will be coordinated by a practice nurse who has completed a training course (ENB N45) at the NSE. There is ample evidence that practice nurses make a valuable contribution to the care of patients with epilepsy.[5] A structured epilepsy record card will be devised so as to provide care and advice in a sequential fashion avoiding omission and repetition. There will be particular emphasis on counselling. The clinic will act as a focus for networking with other professionals, such as neurologists, paediatricians, school nurses, health visitors, and counsellors, and could also promote liaison.

This study shows that annual review and seizure frequency documentation can be improved, but alterations in drug therapy are more difficult. Barriers to change exist, but it is proposed that they can be overcome by successive audits based on a primary care team approach with close collaboration with a neurologist.

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