

PRACTICE OBSERVED

Practice Research

Eye disease at a community health centre

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Abstract

A pilot study of eye disease was carried out over three months in a general practice at a London community health centre. During the study 223 patients with eye symptoms attended, representing 2.7% of all medical consultations and giving an annual consultation rate for eye disease of 57 per 1000 of the practice population. One hundred and sixty nine of these patients were seen by an ophthalmologist who diagnosed 43 different presenting disorders; seasonal allergic conjunctivitis accounted for 21% of these cases and other disorders of the lids and conjunctiva for 28%. The general practitioner's diagnoses were compared with the ophthalmologist's diagnoses in 30 cases; the principal differences were for specialist areas of external disease, medical retinal disorders, and where ophthalmic symptoms were unrelated to ocular abnormality. A cost analysis showed that an ophthalmic service in a community health centre would be cost effective by reducing attendances at the hospital outpatient department.

Introduction

Few data are available on acute eye disease in the community, particularly for conjunctival and lid disorders, which accounted for over half of the ophthalmic consultations in a previous survey in general practice. Population screening studies have been carried out to estimate the prevalence of both individual diseases such as

blindness, cataract, and glaucoma and all the chronic eye diseases. Such cross sectional studies cannot assess the incidence of acute conditions, for which prospective longitudinal studies are required.

Prospective longitudinal studies of eye disease have been completed in general practice in the United Kingdom and Australia. These were carried out on a large scale by general practitioners rather than ophthalmologists, and although the results provide valuable information on the incidence and prevalence of broad categories of ophthalmic disease, this cannot be extended to specific disorders, as the Royal College of General Practitioners' survey eye disease was divided into 11 groups only, based on the International Classification of Diseases coding, with no subdivision of large categories of disorders like 'conjunctivitis and ophthalmia.'

Without information on acute as well as chronic eye diseases the relative importance of the different eye disorders presenting to the general practitioner is unknown. This has made it difficult to plan the medical education of eye disease in the community in terms of diagnosis, management, treatment, and the provision of ophthalmic services.

This pilot study was carried out while I was studying the prevalence of allergic eye disease at a community health centre. The study was in a defined community, and the diagnostic methods used provided more detailed information on eye disorders than was available in the previous surveys. The aims of the study were to determine the incidence and prevalence of specific eye diseases presenting at a community health centre, to compare the diagnosis by an ophthalmic specialist with that by a general practitioner, to assess the need for an ophthalmic specialist service at a community health centre, and to determine the cost of such a service.

Patients and methods

An ophthalmic service was provided in the community health centre on three half days a week. The ophthalmologist was a member of the outpatient staff of a consultant ophthalmologist at Moorfields Eye Hospital to whom

NEED AND COST OF AN OPHTHALMIC SPECIALIST SERVICE AT A COMMUNITY HEALTH CENTRE

The consultation rate for eye symptoms for the three months of the study was 17.4 per 1000 patients and the episode rate 16 per 1000, equivalent to an annual consultation rate for eye symptoms of 69.6 per 1000 patients and an episode rate of 64 per 1000. However, which in this study accounted for 55 of 242 consultations and 52 of 223 episodes in the Royal College of General Practitioners' survey, if this is excluded the annual consultation and episode rates are 54 per 1000 patients and 49 per 1000 patients respectively. These figures may be lower in this community practice than in a practice in an area that is not so well provided for by nearby ophthalmic casualty services.

Excluding seasonal allergic conjunctivitis, which would usually be seen by the general practitioner, an ophthalmologist working on a similar practice could expect to see approximately seven patients per 10000 registered patients a week. Both of the practices in the health centre are of the same size, serving about 30 000 in all, so that approximately 20 patients would be seen by an ophthalmologist spending one day a week in the health centre.

An important figure for the costing of a community ophthalmic service is the number of patients who were saved a visit to the local eye department as a result of having access to an ophthalmologist at their health centre.

The following procedures were performed by the ophthalmologist: incision and curettage eye, excision of cysts, two syringes of lacrimal ducts four, refraction 11, glaucoma assessment three, orthoptic screen three, and diabetic assessment two. A further 16 patients were saved a hospital visit, totalling 46 patients. Eighteen of the 169 patients seen by the ophthalmologist were referred for hospital management.

The cost to society of ophthalmic outpatient attendances for the 46 patients who were saved such a visit over the three months of the study was compared with the cost of providing an ophthalmic specialist service at the health centre for that period. As the ophthalmic specialist requirements of the practice could have been met by one clinical session a week, the costs have been based on this.

Because the ophthalmic specialist service used existing health centre space and resources the only cost is the ophthalmologist's salary, this has been based on a clinical assistant salary for a nominal half day including the London weighting allowance at 1985 salary levels. The cost of an ophthalmic outpatient visit has been based on the costs at Moorfields Eye Hospital in 1984-5, less the allowance for medical and surgical supplies, pharmacy, radiology, pathology, optical services, and medical photography. This is to make the cost comparison with the level of service supplied at the health centre more realistic. It includes the costs of medical, nursing, and paramedical staff together with general services.

Table IV gives this comparison for the three months of the study and shows that there is a saving of £244.93 as a result of seeing these patients at the health centre. This does not include the additional costs of transporting some of these patients to the hospital by ambulance and cannot take into account the increased convenience for both the practice staff and the patients of having their own ophthalmic specialist service. The capital cost of the equipment required to set up an ophthalmic examination service at 1986 prices is also shown in the table and could have been met by this potential saving in three or four years. The portable items could be taken to several health centres, which would reduce the cost of providing the service for one practice.

Discussion

This study provides information on consultation and episode rates for patients with eye symptoms at a practice in a community health centre. Data on the incidence of acute conditions such as microbial conjunctivitis are given, but the period prevalence data for chronic conditions represent only disease in patients who sought treatment at the time and exclude those who were having hospital treatment—for diseases such as glaucoma. The only comparable studies are from two surveys of morbidity in general practice and a less detailed study from the Australian morbidity survey. In the 1955-6 College of General Practitioners study the consultation rate for eye diseases was 52.8 per 1000 and in the 1971-2 survey 56.1 per 1000 with an episode rate of 42.7 per 1000. These findings are similar to the rates estimated in this study for consultations of 54 per 1000 patients and for episodes of 49 per 1000 (excluding patients with seasonal allergic conjunctivitis—not included in the general practice surveys). In the Australian morbidity survey eye disease accounted for only 1.7% of all consultations compared with 2.7% in this study.

Seasonal allergic conjunctivitis was the most common disorder in this study. Microbial conjunctivitis was diagnosed less often in the patients seen by the ophthalmologist compared with those seen by the general practitioners and those expected from the previous studies, conducted by general practitioners. Neuro-ophthalmic disorders were surprisingly common. A much wider range of diseases was identified than had been expected.

The comparison of diagnoses made by the ophthalmologist and the general practitioner suggested that microbial conjunctivitis may have been overdiagnosed at the expense of blepharitis and other expected areas of disturbance of the conjunctiva and areas of external eye disease, medical retinal problems, and patients whose ocular symptoms were not related to any abnormality. Rapid access to an ophthalmic opinion in the community health centre where minor surgical procedures could be performed could reduce morbidity and hospital referrals for these specialist areas by helping with the diagnosis and management. These activities would improve the quality of community ophthalmic care and provide a more convenient service for general practitioners and their patients than the ophthalmic casualty and outpatient services.

An ophthalmologist could meet the ophthalmic needs of the community served by seven general practitioners in one clinical session a week, when approximately 10 patients would be seen. This is the minimum size of practice in which such a service could be viable, and it would pay for itself by reducing the numbers of attendances at the local ophthalmic outpatient department. Large health centres in which there are several practices would be ideal for introducing a community ophthalmic scheme like this: there would be a sufficient number of patients with ophthalmic problems, and it is usually possible to find a suitable room that can be used by the ophthalmologist without modifying the premises. The ophthalmologist in this study was a member of the outpatient staff of a consultant ophthalmic surgeon to whose clinics referrals were made; thus encouraging close links with the hospital service. The relationship with the health centre staff and patients and the wide range of ophthalmic problems that were seen thus a rewarding way of providing an ophthalmic service.

A longer study would provide information on ophthalmic morbidity. Ophthalmic education and research into common disorders that are not seen in the ophthalmic clinic can be carried out effectively in a community setting.

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IKGD was a Fisons Research Fellow in the department of clinical ophthalmology, University of London, for the duration of this study. His work was supervised by R J Buckley, who with Dr A M Edwards, director of clinical affairs at Fisons plc, planned this project.

clinical referrals were made. All patients who were registered with one practice at the Kenilworth Town Health Centre, London, were included in the study, which was carried out between 20 May and 20 August 1984. The practice has seven general practitioners and is a purpose built health centre that is shared with another practice of similar size. There is a team of practice nurses and a computerized patient register. The practice serves a densely populated area of half a square mile, two by the Kenilworth Road, London Road. In June 1984 13914 patients were registered with the practice.

The overall socioeconomic status of the area is intermediate. There is a high proportion of working married women and students. Families are small, and single parent families and single non-pensioner households are overrepresented. There are relatively few elderly people and very young people. Residential mobility is high.

Patients with eye symptoms were seen by the ophthalmologist, but if patients were seen by a general practitioner or nursing staff they were offered an additional appointment to see the ophthalmologist. The ophthalmologist saw 169 patients in 188 consultations. Thirty of these also saw a general practitioner. General practitioners saw 49 patients in as many consultations, and nurses saw five patients in five consultations. Only one patient had more than one episode of eye disease. Thus 223 patients attended 242 consultations for eye problems. Overall, during the three months there were 10 485 consultations for all causes, 8794 with medical staff and 1691 with nursing staff.

The 169 patients examined by the ophthalmologist were seen in one of the general practitioner's examination consultations. Full facilities were available for refraction, slit lamp biomicroscopy, tonometry, and indirect ophthalmoscopy. There was no perimeter. Curettage of lid cysts, excision of lid lesions, and lacrimal duct syringing were carried out on site.

A specially designed form was used to record the ophthalmic data, and the medical and nursing staff were supplied with booklets of short forms to record the diagnosis, treatment, and follow up on the patients whom they had seen with eye symptoms. These booklets were introduced towards the end of the study, thus the general practitioner's diagnosis could be compared with the ophthalmic diagnosis in only 30 patients. In the analysis of the eye diseases the number of episodes refers to the number of times each disorder presented, and the number of consultations refers to the number of individual consultations for each disorder.

Results

PREVALENCE OF EYE DISEASE

During the three months of the study there were 237 medical consultations for ocular symptoms by 218 patients, 2.7% of all medical consultations (n=8794). In addition, there were five consultations by five patients attending the practice nursing staff, 0.3% of all the nurse consultations (n=1691). The ophthalmologist saw 169 of these patients, whose presenting diagnoses are shown in table I in order of frequency. A wide range of disease was seen during the study. Disorders that affected the lids and conjunctiva were most common, although few were thought to be the result of frank infections. Seasonal allergic conjunctivitis accounted for 21.3% of all disease episodes, all other lid and conjunctival disorders for 28.4%, vitreoretinal disorders for 7.0%, neuro-ophthalmic disorders were surprisingly common and accounted for 5.3%, motility disorders for 4.7%, and ametropia for 1.6%. Table II gives the diagnoses made by the general practitioners and the nursing staff for the 54 patients who were not seen by the ophthalmologist.

COMPARISON OF DIAGNOSES

If the diagnoses made by the general practitioners in table II are compared with the diagnoses made on the 169 patients assessed by the ophthalmologist (table I) the range of diagnoses is smaller, as would be expected. The occurrence of allergic conjunctivitis being carried out by the ophthalmologist accounts for the relatively small number of these patients seen by the general practitioners. The other main difference was the large number of patients diagnosed as having microbial conjunctivitis by the general practitioners and the small number with blepharitis or no detectable abnormality. There are two possible explanations for this: either the patients with apparently simple microbial infections selectively refused an additional ophthalmic consultation so that the numbers were underrepresented among the patients seeing the ophthalmologist, or the general practitioners were overdiagnosing microbial conjunctivitis at the expense of blepharitis, no detectable abnormality, or other diagnoses. Table III compares the diagnoses made by the general practitioners and the ophthalmologist for the 30 patients in which that could be done. This comparison suggests that conjunctivitis and cataract may be overdiagnosed by the general practitioners, although the numbers are small.

TABLE I—Number of episodes of each presenting diagnosis in patients seen by the ophthalmologist (percentages in parentheses)

Table with 3 columns: Disease, Episodes, n (%). Rows include Seasonal allergic conjunctivitis, Blepharitis, Microbial conjunctivitis, Maculosecretion retinal disorders, etc.

TABLE II—Diagnoses made by general practitioners or nursing staff (five patients for the 54 patients who did not see the ophthalmologist)

Table with 3 columns: Disease, No., %.

TABLE III—Comparison of diagnoses made by ophthalmic specialist and general practitioners (30 patients)

Table with 3 columns: Ophthalmologist's diagnosis, General practitioner's diagnosis, No. of patients.

Doctors as nutrition educators? Part III

MARGARET B CLARK, ELIZABETH M EVANS, MARGARET B HAMILTON-SMITH

One person dies every three minutes of coronary heart disease in Britain. Poor diet is one of the major risk factors. Can you give the appropriate dietary advice to your patients?

- 1) What are the Committee on Medical Aspects of Food Policy (COMA) recommendations?
2) What is the most effective way of reducing a high serum cholesterol concentration?

- 3) Should every egg carry a government health warning?
4) What type of diet is used to treat raised triglyceride concentrations?

- 5) How much fat should be eaten in a day?
6) How much protein should be eaten in a day?

- 7) How many eggs can be eaten safely in a week?
8) For those wishing to lower their fat intake, which milk would you recommend?

- 9) Name three suitable cooking methods for those wishing to reduce their fat intake.
10) If an amount of normal healthy body weight wishes to reduce their fat intake which foods should they increase to maintain their weight?

Both District Health Authority
MARGARET B CLARK, DPH, SAs, district nutrition and dietetic manager
SUSAN EVANS, DPH, SAs, senior dietitian

Swindon Health Authority
ELIZABETH M EVANS, DPH, SAs, senior dietitian
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Answers to quiz

- 1) Fat is the most important nutrient in the diet...
2) The most effective way of reducing a high serum cholesterol concentration is to reduce the intake of saturated fat...
3) Every egg should carry a government health warning...
4) The diet used to treat raised triglyceride concentrations is a low fat, low carbohydrate diet...
5) The recommended daily intake of fat is 60-70g...
6) The recommended daily intake of protein is 50-60g...
7) No more than one egg should be eaten in a week...
8) For those wishing to lower their fat intake, semi-skimmed milk is recommended...
9) Suitable cooking methods for reducing fat intake are boiling, steaming, and baking...
10) To reduce fat intake, increase intake of whole grains, fruits, and vegetables.