

Outcome of referrals by optometrists to general practitioners: an 18 month study in one practice

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SUMMARY. All general ophthalmic services forms (GOS18) received by one practice over an 18 month period were analysed and the patient outcome after two years noted from the practice records. Sixty one forms were collected. Fifty patients (82%) were referred by the general practitioners to the local eye hospital. Among the 45 patients that have so far been seen by an ophthalmologist, 22 (49%) were diagnosed as having cataracts, eight (18%) macular degeneration and two (4%) glaucoma. Thirteen patients (29%) were found to have normal eyes. Nine of the 61 patients (15%) were not referred to an ophthalmologist and two patients (3%) were already under review at the eye hospital.

It is concluded that some referrals to ophthalmologists might be avoided if general practitioners received improved training in ophthalmology. However, general practitioners remain an effective filter in the referral system between optometrists and ophthalmologists.

Introduction

THE general ophthalmic services form GOS18 is the standard means of communication between optometrists and general practitioners. This form is used for formal referrals when a medical opinion is sought, though a letter is sometimes used to inform a patient's general practitioner of an abnormality detected by an optometrist. Ophthalmic opticians are increasingly being known by the title optometrist, to distinguish them from dispensing opticians who sell glasses but do not examine eyes.

This study attempts to examine the types of problems which optometrists refer for a medical opinion, and the outcome of these referrals. It also tries to identify more clearly the role of the general practitioner in this process.

Method

During an 18 month period beginning July 1987 all GOS18 forms received by one practice were collected and photocopied. The forms were analysed to determine the patients' reasons for consulting the optometrist and the diagnoses made by the optometrist. When referrals were made to an ophthalmologist, the original GOS18 form was attached to the covering letter from the general practitioner. Two years after the start of the study patient outcome was studied for all patients by examining the practice records. For patients referred to an ophthalmologist the length of time patients had to wait for an outpatient appointment, the ophthalmologist's diagnosis and any treatment received were determined from their records.

The practice has four partners, one trainee and 7200 patients. It is situated in a seaside town with a high proportion of elderly residents. A number of optometrists practise close by, and a local eye hospital serves the area.

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Submitted: 3 February 1989; accepted: 26 June 1989.

© British Journal of General Practice, 1990, 40, 59-61.

Results

Over the 18 month period 61 GOS18 forms were received by the practice. Forty two patients (69%) were female and 19 (31%) male. The age range was from 11 months to 93 years while the mean age for females was 68 years and for males 60 years.

Table 1 shows patients' reasons for consulting an optometrist as given on the GOS18 forms. The majority (38, 62%) complained of some disturbance of vision. In 10 cases (16%) no reason was stated.

Table 1. Patients' reasons for consulting an optometrist.

Reason	Number (%) of patients (n = 61)
Deteriorating vision	29 (48)
Blurred vision	3 (5)
Sudden loss of vision	3 (5)
Head injury	2 (3)
Headaches	2 (3)
Routine check up	2 (3)
Difficulty reading	1 (2)
Double vision	1 (2)
Field defect	1 (2)
Painful eyes	1 (2)
Other reasons	6 (10)
Reason not given	10 (16)

n = total number of patients.

Table 2 gives the diagnoses made by the optometrists as stated on the GOS18 forms. Twenty seven patients (44%) were diagnosed as having cataracts, nine (14%) were thought to have raised intraocular pressure and therefore possibly glaucoma, three (5%) had macular degeneration and in 15 cases (25%) no diagnosis was given. In seven of the nine suspected cases of glaucoma the intraocular pressure was measured by the optometrist.

Table 2. Optometrist's diagnosis.

Diagnosis	Number (%) of patients (n = 61) ^a
Cataracts	27 (44)
Glaucoma?	9 (14)
Macular degeneration	3 (5)
Colour blind	1 (2)
Corneal ulcer	1 (2)
Floaters	1 (2)
Keratoconus	1 (2)
Retinal detachment	1 (2)
Retinal haemorrhage	1 (2)
Amblyopia	1 (2)
No eye problem detected	2 (3)
No diagnosis given	15 (25)

n = total number of patients. ^a More than one diagnosis on some forms.

Outpatient appointments

Over the 18 month period, 50 of the 61 patients (82%) were referred to the eye hospital. At the end of two years 45 patients had been seen by an ophthalmologist and four were still waiting because hospital staff absentees and cancelled clinics had

resulted in postponed appointments. One patient left the practice list and the outcome is unknown.

The waiting time to be seen at a National Health Service outpatient clinic varied between one and nine months, with a mean of four months. The nine patients with suspected glaucoma were seen within two to eight months and the patient who had to wait eight months had borderline pressures as measured by her optometrist and was found to have normal eyes by the ophthalmologist. Two of the 45 patients elected to be seen privately and both were seen within a month. One patient with a suspected retinal detachment was sent immediately to the accident department at the eye hospital where the diagnosis was confirmed. Another patient with an odd looking conjunctival lesion was also sent directly to the accident department.

Table 3 shows a comparison of diagnoses made by the optometrist and the ophthalmologist. A high level of agreement was found in patients with cataracts though suspected glaucoma was rather over-diagnosed by optometrists (seven false positives). This may be partly due to the different technique used by optometrists to measure intraocular pressure, and partly to a deliberate policy not to miss any cases of glaucoma. Among the 45 patients seen at the hospital, 13 (29%) were found to have normal eyes, two (4%) were diagnosed as having glaucoma and were started on treatment, 22 (49%) had cataracts and eight (18%) had macular degeneration. Four patients referred with cataracts were found to have a more significant degree of macular degeneration accounting for their visual reduction. Clearly, all these conditions may co-exist in one patient. Certain patients whose eyes were judged as normal at the hospital were nevertheless given follow up appointments, as were some patients with early cataracts.

Other medical conditions

Eight of the 45 patients referred to hospital were known to suffer from diabetes mellitus and to be receiving treatment, and four patients were receiving treatment for hypertension. No new related retinal changes were found in these patients when seen by the ophthalmologist.

Surgery

During the two years from the start of the study five of the 22 patients diagnosed as having cataracts by the hospital had extractions and implants. A further three patients are on the waiting list for cataract surgery. One patient with early cataracts is being followed up by the hospital and is likely to be placed on the waiting list at some stage.

Two patients with retinal detachments underwent laser therapy.

Registration as blind

Two patients with senile macular degeneration were registered as blind and a further patient with the same condition was offered registration but declined.

Patients not referred to hospital

Among the 11 patients not referred to the eye hospital by their general practitioner one refused referral. This was a 91-year-old woman diagnosed by her optometrist as having cataracts. This was confirmed by her general practitioner but she declined referral as she did not want surgery. Three patients had already been seen by an ophthalmologist and no further treatment was possible. Two of these patients had fairly recently been diagnosed as having macular degeneration and one patient had had a venous thrombosis. One patient with cataracts and another with macular degeneration were already under review at the eye hospital and had follow up appointments. In both cases the optometrist appeared not to be aware of this.

In five cases referral was not indicated. Two patients had consulted their optometrist with headaches but no abnormality had been found with their eyes. In both cases the general practitioner diagnosed tension headaches. One 62-year-old woman had her intraocular pressure measured as 19 and 20 mmHg with normal visual fields. A telephone call to an ophthalmologist by the general practitioner confirmed that this was normal and eliminated the need for referral. An eight-year-old boy, found to be short sighted and red/green colour blind, was referred by the general practitioner to a local ophthalmic practitioner for further advice. Finally, a 78-year-old man diagnosed as having cataracts was not referred to the hospital because he had carcinomatosis secondary to carcinoma of the stomach.

Discussion

There appears to be a paucity of literature on the general practitioner's role in the management of eye problems. Over 80% of all eye examinations are carried out by optometrists,¹ and in a study of patients attending an eye hospital accident department almost 90% were self-referred and 37% of the patients were managed by the ophthalmic nurse alone.²

In a study of 1500 optometrists in 1988, 6.1% of patients seen were referred to their general practitioner and in a further 2.5% of cases the general practitioner was notified of some abnormality.¹ Around half of all referrals were among patients over 60 years old, though 15% were in the 0-20 years age group.

Diseases of the eye account for between 1.6 and 2.7% of all consultations with a general practitioner,^{3,4} and Dart has suggested that there is sufficient work for an ophthalmologist to run one clinic a week in a community health centre.⁴

Table 3. Comparison of diagnoses by optometrists and ophthalmologists for the 45 patients seen by an ophthalmologist.^a

Optometrist's diagnosis:	Ophthalmologist's diagnosis:					
	Normal (n = 13)	Glaucoma (n = 2)	Cataracts (n = 22)	Macular degeneration (n = 8)	Amblyopia (n = 1)	Other (n = 6)
Glaucoma?	4	2	1	—	—	2
Cataracts	2	—	19	4	—	—
Macular degeneration	—	—	—	2	—	—
Amblyopia	—	—	—	—	1	—
'Deteriorating vision'	1	—	2	1	—	1
Other	6	—	—	1	—	3

n = total number of patients with diagnosis. ^a Some patients had more than one final diagnosis made.

In this study 29% of patients seen in the ophthalmology outpatient clinic were found to have normal eyes. If an optometrist suspects an eye abnormality then a general practitioner is unlikely not to refer the patient for a specialist opinion. However, with improved undergraduate and postgraduate training in ophthalmology, general practitioners might feel sufficiently confident to manage more cases and refer less. Waiting times for outpatient appointments and attendances at eye hospital accident departments would then fall. For example, not all patients with cataracts need to be referred to the hospital at the time of diagnosis.

However, the situation is less clear with macular degeneration. Although most cases cannot be treated, a few should be investigated as treatment may be appropriate, and patients with advanced degeneration may benefit from registration as partially sighted or blind.

The general practitioner is in a unique position to advise a patient referred by an optometrist. In this study, 82% of patients were referred on to see an ophthalmologist for more detailed assessment and treatment when appropriate. In a few cases (two patients in this study) a more urgent referral to the accident department may be indicated. When a patient is referred to an ophthalmologist a letter from the general practitioner outlining relevant past medical history and current drug therapy should be attached to the GOS18 form. In this study 12 patients referred to the hospital were receiving treatment for diabetes or hypertension.

This study supports the view that general practitioners continue to be an effective filter in the referral pathway between optometrist and ophthalmologist. The findings suggest, however, that better training in ophthalmology among general practitioners might usefully reduce the number of unnecessary referrals.

References

1. Port MJA, Pope CA. Referrals and notifications by British optometrists. *Ophthalmic Physiol Opt* 1988; 8: 323-326.
2. Jones NP, Hayward JM, Khaw PT, *et al.* Function of an ophthalmic 'accident and emergency' department: results of a six month survey. *Br Med J* 1986; 292: 188-190.
3. Morrell DC. Expressions of morbidity in general practice. *Br Med J* 1971; 2: 454-458.
4. Dart JKG. Eye disease at a community health centre. *Br Med J* 1986; 293: 1477-1480.

Acknowledgements

I am grateful to Mrs Ray O'Neill for her assistance with this study.

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