PRACTICE OBSERVED

Practice Research

Evaluation of a course for general practitioners on muscles and joints

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Abstract

We attempted to evaluate a course on muscle and joint problems for general practitioners using a practice log diary and a factual test paper, which were completed both before and after the course by the doctors attending. A significant improvement was shown in the group score in the test paper taken after the course ($p < 0.001$). Scores in the tests before and after had a negative correlation with age ($p < 0.001$).

In comparing the data in the second log diary with those in the first there was a significant reduction in the prescribing of drugs ($p < 0.001$), use of heat treatment ($p < 0.001$), and in "other" forms of treatment ($p < 0.001$). No appreciable change in investigations or number of hospital referrals was shown. Those doctors who had low scores in the first factual test referred appreciably more patients to hospital and requested more x-ray examinations ($p < 0.01$).

Introduction

A two and a half day residential course on muscle and joint problems was held at Stoke-on-Trent in October 1982 and was attended by 25 general practitioners. The format of the course

was similar to that described by Griffin and Barry and consisted largely of the clinical demonstration of patients to small groups of doctors.¹ Its aims were to improve skills in examination and diagnosis and to demonstrate techniques of treatment, including joint aspiration and local steroid injections. A further objective was to determine whether the course would alter the doctors' management of patients, particularly with regard to hospital referrals and investigations. A fuller description of the course is given elsewhere.²

Method

Before attending the course the doctors were sent a log book, in which they were asked to record the details of 20 consecutive cases of muscle and joint conditions in patients presenting to their practice. Information on each patient was sought on age, sex, the diagnosis or site of the problem, or both; whether the condition was new, old, or recurrent; details of investigations arranged; treatment prescribed, advised, or given; referral elsewhere—for example, hospital, private consultation, domiciliary visits, physiotherapy; and whether the doctor thought that physiotherapy was indicated. Six weeks after the course each doctor was sent a second log book for the details of a further 20 consecutive patients with muscle and joint problems.

At the beginning of the course each doctor completed a test paper consisting of 33 composite questions on rheumatology, most of them to be answered "true, false or don't know." These questions were selected from *Joint Studies in Rheumatology* by Dr Matthew Wilkinson.³ The test paper had a maximum score of 200, and four examples of the questions are given in the appendix. A questionnaire was also completed which gave the following information on the doctor attending: age, sex, past or present experience in orthopaedics or rheumatology; access to a physiotherapist, clinic, or a community physiotherapist; and whether he employed a practice nurse.

At the end of the course each doctor again completed the test paper. The accepted answers to the questions were issued after the test, and each doctor subsequently received by mail a copy of Dr Wilkinson's book. A third opportunity to answer the questions was offered six weeks after the course, when the paper was sent by post with the

averaging 11.5% patient referrals compared with 22.5%, but this was not significant. Not surprisingly they also referred more patients for physiotherapy (12.1% compared with 4.4%).

To assess the doctors who attended the course, doctors were divided into three groups according to their scores on the first written test, and differences in patient management were sought by using the data from the first log diary, which was kept before attending the

course. The group with the top scores had requested significantly fewer investigations ($p < 0.001$) and given more local steroid injections and "other" treatment ($p < 0.05$). The bottom group had referred appreciably more patients to hospital ($p < 0.01$) and requested more x-ray examinations increased as scores generally decreased ($p < 0.01$) (table IV). These differences could not be attributed to the incidence of new patients in each group. The number of referrals to hospital was almost identical after the course for the high, middle, and low scorers as before the course.

TABLE III—Patient profiles from the two log diaries completed by general practitioners

Date	Group before the course	Group after the course
Age (years)	1-93	1-93
Sex	47.4 (19.2)	47.1 (16.6)
Male	245	134
Female	260	136
Site of problem	80	81
Neck	108	126
Shoulder	225	100
Elbow	80	100
Wrist	225	100
Hand	80	100
Foot	225	100
Leg	80	100
Back	225	100
Other	80	100
Investigations per patient	17	20
X-ray	123	107
Urine	12	13
ECG	12	13
Other	12	13
Treatment per patient	22	23
Physiotherapy	152	181
Local steroid	4	2
Other	54	40
Referral	2	0
Investigations per patient	17	20
X-ray	123	107
Urine	12	13
ECG	12	13
Other	12	13
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Local steroid	4	2
Other	54	40
Referral	2	0

* $p < 0.05$. † $p < 0.01$. ‡ $p < 0.001$.

TABLE IV—Cross tabulation of management of patients with doctors' scores on the factual test

	Group with top scores	Group with middle scores	Group with bottom scores
No of doctors	160	87	140
No of patients	228 (14.3)	119 (13.6)	246 (17.6)
Specific investigations requested	48	27	51
No of patients referred to hospital	181	12	31
No of x-ray examinations requested	20	43	43
No of local steroid injections requested	16	5	4
No of times "other" treatment was given	59	27	15

* $p < 0.05$. † $p < 0.01$. ‡ $p < 0.001$.

§Goodness of fit test used

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second log diary. The doctor was asked to answer the questions under the same conditions as for the previous tests, and to return the completed paper. Also enclosed with the diary was the doctor's score in the previous test papers, together with the group score, range, and mean on each occasion.

The data from the test papers and log diaries were coded, processed, and analysed by computer. Since the conditions under which the third test paper was completed were different from the first two the results are not as comparable but are given below.

An attempt was made to acquire a "control group" (of non-attenders on the course) by writing to the 27 doctors who had responded to the advertisement of the course but did not attend. They were asked (with inducements) to answer the factual test paper and complete a log diary. Only two doctors responded, and this part of the study was abandoned.

Results

GROUP PROFILE

Twenty-five doctors (20 men, five women) attended the course. The average age was 42.6 (range 29 to 65). Six (24%) doctors had had experience in orthopaedics or rheumatology in hospital and two held current posts. Sixteen (64%) had direct access to a physiotherapy clinic or a community physiotherapist, or both, and 21 (84%) employed a practice nurse.

FACTUAL TEST

Ten doctors (40%) scored less than 50% in the test before the course compared with two (8%) in the test after the course. Everyone had a higher score in the second test. The results of the two tests showed a significant increase in the group mean score in the second paper ($p < 0.001$, paired t test).

Doctors who had a practice nurse and access to a physiotherapist had higher average test scores before and after the course than those without such resources, but these differences were not statistically significant. The scores of those with past or present experience in orthopaedics or rheumatology did not differ greatly from the others (table I). There was a significant negative correlation ($p < 0.001$)

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Scores plotted against age for general practitioners from tests taken before and after a course on muscle and joint problems.

of scores with age in both tests (figure). Table II gives the group scores on the individual questions where there was an appreciable increase in the score after the course and gives the clinical areas.

TABLE I—Results of factual test

	Before course*	After course*
Group mean	101.8 (51.9)	129.4 (64.7)
Standard error of the mean	8.1	8.1
Doctors with physiotherapy and practice nurse	111.1 (55.8)	133.5 (66.7)
Doctors with no physiotherapy and practice nurse	91.9 (46.0)	117.5 (58.8)
Doctors with rheumatology orthopaedics experience	100.2 (50.1)	131.5 (65.8)
Doctors with no rheumatology orthopaedics experience	101.0 (52.5)	127.7 (64.4)

*Maximum score = 200.

† $p < 0.001$.

TABLE II—Group mean scores on individual questions in which the scores on the second test showed a significant increase over the first

Question	Mean of score	Mean of score	Probability of occurring by chance	Clinical area
V	2.08	4	3.85	0.01 Joint aspiration
VI	1.32	5	3.82	0.01 Joint aspiration
IX	1.18	5	2.78	0.01 Reiter's disease
XIII	1.18	5	3.82	0.05 Salivary gland
XXVI	2.44	5	3.86	0.05 Physiotherapy
XXVII	2.44	5	3.86	0.05 Physiotherapy
XXVIII	2.44	5	3.86	0.05 Physiotherapy
XXIX	2.44	5	3.86	0.05 Physiotherapy
XXXII	1.04	10	0.27	0.001 Comparison of physiotherapy

† p goodness of fit test used

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We thank Reckitt & Colman Pharmaceutical Division for sponsoring the muscle and joint course; Dr Matthew Wilkinson for permission to use his questions on rheumatology in the test paper; all the doctors who took the tests and completed the log diaries; the research advisory committee of the North Staffordshire Medical Institute for the grant to carry out the evaluation; and Professor Richard Kempa, department of education, University of Keele, for criticism and advice on this paper.

Appendix

- Which of the following statements are true about aspiration of knee effusion?
 - It can safely be performed by a general practitioner in his surgery.
 - It may be more useful than serum uric acid estimation in the diagnosis of acute gout.
 - It is best performed by inserting the needle into the space just behind the upper patella.
 - It should be carried out only if a parallel tap can be elicited.
- Which of the following features suggest a poor prognosis in a patient with rheumatoid arthritis?
 - Subcutaneous nodules.
 - Vasculitis lesions.
 - A weakly positive RA latex test.
 - High erythrocyte sedimentation rate.

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- Which of the following are recognised features of Reiter's syndrome?
 - Mouth ulcers
 - Nail pitting
 - Conjunctivitis
 - Swollen tender toes
 - Arthropathy which sometimes responds to a course of tetrazine
- Which of the following drug pairs interact adversely?
 - Phenylbutazone-chlorpromazine
 - Allopurinol-cloxacillin
 - Aspirin-warfarin
 - Indomethacin-benzofluoride
 - Aspirin-salicylate

*T F D/K = True, false, don't know

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Approval of trainers and training practices in the Oxford region: assessment

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Abstract

This is the second paper of three on criteria for approval of trainers of general practitioners drawn up for the Oxford region. This paper describes assessment of trainers and training practices by a team of general practitioners who visit for one day.

Introduction

In the first paper (18 February, p 538) we listed recently accepted criteria for trainers and training practices in the Oxford region and how they were devised by a regional working party. The working party also had the task of recommending new methods of assessment that would allow performance in each criteria to be measured.

Until recently the assessment of trainers in the region had followed a fairly traditional pattern. Doctors applying for the first time were visited for two to three hours by two assessors from a panel of roughly 18 course organisers and senior trainers.

This was followed by an interview with an appointments committee. Reappraisals might require a visit or interview or both. It had become clear that much more information was gained from the visit than from the interview. The working party recommended therefore that for a pilot period of six months a much longer visit should be made for all reappraisals as well as initial approvals, and, as we shall describe in the third paper, such a visit is now made regularly in the region.

PURPOSE OF VISIT

These visits have two purposes. Firstly, they are used to assess both the trainer and his practice against the agreed criteria and to make recommendations to the appointments committee on approval. Secondly, and equally important, the purpose is educational, to assist the trainer and his practice to identify strengths and weaknesses, and to consider the steps that may be taken to build on these strengths and correct any weaknesses.

MAKE UP OF THE TEAM

There are usually three visitors and all trainers and course organisers in the region are invited to be members of visiting teams. Fifty trainers took part in the pilot study and subsequently only six trainers have declined the offer. It is, therefore, assessment largely by one's peers. The regional adviser or associate adviser will usually be included in the team visiting new prospective trainers, and they may also be included in other visits as well.

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