Musculoskeletal clinic in general practice: study of one year's referrals

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SUMMARY

Background. *A musculoskeletal clinic, staffed by a general practitioner trained in osteopathy, medical acupuncture and intralesional injections, was set up in an inner London general practice in 1987.*

Aim. *A retrospective study was undertaken of one year's referrals to the clinic in 1989–90 to determine how general practitioners were using the clinic in terms of problems referred; consultation patterns of patients attending the clinic and 12 months after initially being seen; and how access to the clinic influenced referrals to relevant hospital departments.*

Method. *Day sheets were studied which recorded information on demographic characteristics of patients referred to the clinic and their problems, diagnoses made, duration of symptoms, number and range of treatments given, and recurrence of problems. Use of secondary referral sources was also examined.*

Results. *During the study year 154 of 3264 practice patients were referred to the musculoskeletal clinic, and attended a mean of 3.5 times each. Of all the attenders 64% were women and 52% were 30–54 years old. Eighty one patients (53%) presented with neck, back or sciatic pain. A specific traumatic, inflammatory or other pathological process could be ascribed to only 19% of patients. Regarding treatment, 88% of patients received osteopathic manual treatment or acupuncture, or a combination of these treatments and 4% received intralesional injections. Nine patients from the clinic (6%) were referred on to an orthopaedic specialist during the year, two with acute back pain. Referrals to orthopaedic specialists by the practice as a whole were not significantly lower than the national average, although the practice made fewer referrals to physiotherapy and rheumatology departments than national figures would have predicted. Seventeen patients (11%) returned to the clinic with a recurrence of their main complaint within a year of their initial appointment; second courses of treatment were usually brief.*

Conclusion. *The clinic encouraged a relatively low referral rate to musculoskeletal specialists outside the practice. However, a need was identified for better communication about the potential of the approaches used in order that referrals to secondary specialists, particularly orthopaedic specialists, could be further reduced.*

Keywords: musculoskeletal disorders; referral of patients; GP clinics; complementary medicine; orthopaedics.

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Introduction

MUSCULOSKELETAL disorders are a major cause of morbidity in the United Kingdom and an increasingly important reason for consultation in general practice. The number of patients consulting with musculoskeletal problems per 1000 at risk has risen from 91.2 in 1971–72 to 132.8 in 1981–82. The number of consultations for back pain over the same period rose from 17.6 to 32.8 per 1000, an increase of 86%.[1]

Musculoskeletal disorders have a prevalence of approximately 190 per 1000 patients per year; an estimated 7.5 million people seek help from their general practitioners each year, about one in 10 of whom are referred to a specialist.[1] As well as accounting for 10–15% of all general practitioner consultations and more than 44 million working days lost (12%),[2] musculoskeletal disorders also cause a high proportion of chronic disability.[3] According to figures from the Department of Health and Social Security, in 1982–83 back pain was responsible for 33.3 million days of certified incapacity to work.[4]

Manipulative therapies for musculoskeletal problems have a long history, and their use has been formalized in the osteopathic[5] and chiropractic disciplines whose methods, though somewhat different, are alike in their strong reliance on manual and tactile approaches to diagnosis and treatment. Although their use is better established in the private sector, in recent years they have become more widely available within the National Health Service. A number of controlled studies document the application of Maitland's manipulation and osteopathic manipulation in general practice,[6,7] and hospital settings,[8,9] Doran and Newell's study finding no support for the use of manipulative methods. In some cases, trial design has been problematic[10] and even a well-known trial of outpatient chiropractic treatment[11] has been widely criticized.[12] However, a rigorous study of primary care based manipulative therapy in the Netherlands has shown manipulative therapy to be significantly more effective than physiotherapy for back and neck pain.[13] A 1991 survey of all general practitioners in the UK showed that 29% of 23 865 respondents thought that, assuming adequate resources were made available, it would be appropriate to offer osteopathy at their surgeries.[14]

The present study took place in an inner city general practice in London which, as well as offering orthodox medical care, also provides a range of complementary therapies through clinics staffed by part-time practitioners. A musculoskeletal clinic staffed by a general practitioner trained in osteopathy, medical acupuncture and intralesional injections was set up in 1987. Patients with musculoskeletal problems are usually referred by general practitioners in the practice although some refer themselves. Only NHS patients registered with the practice are seen. Clinic sessions last three hours and are held twice weekly with appointments at 20-minute intervals.

The aim of the study was to examine one year's referrals to the musculoskeletal clinic in 1989–90, and in particular the study aimed to investigate the number of patients referred and their demographic characteristics; the type of problems referred; the duration of symptoms; the diagnoses made; the number and range of treatments given; the frequency with which patients returned with their presenting problem within a year of initially being seen at the clinic; the clinic's referrals to secondary sources during the study year; and the practice's use of secondary referral sources.

Method

The study period covered new referrals to the musculoskeletal clinic between 15 September 1989 and 14 September 1990. During this time, the practice list size grew from 2831 to 3697 patients, a mean for the year of 3264 patients.

Daysheets noting date and source of referral, type of problem, chronicity, diagnoses made, treatment given, referral date and discharge date were filled in for each session by the practitioner running the clinic. Separate note sheets were kept in patients' files to ensure accurate record keeping and to facilitate final assessment of progress and any referral made.

Patients' notes were reviewed in September 1991, one year after the study period, to establish whether patients discharged from the clinic had returned within a year of initially being seen for further treatment or consulted their general practitioner subsequently with the same problem. A record was also kept of all referrals made to orthopaedic, physiotherapy and rheumatology departments during the study period. All practice referral letters were reviewed in September 1991, to calculate the practice referral rate to relevant specialties during this two year period.

Results

Demographic characteristics

The practice population is comparatively young in relation to that of the local family health services authority as a whole. During the study period, 91.7% of patients in the practice were under 65 years old compared with 86.7% in the family health services authority. In the practice, 8.3% were aged 65 years and over and 30.7% were aged 20–29 years compared with 13.3% and 23.4% in the family health services authority, respectively.

Of the 154 patients who were seen in the musculoskeletal clinic, 56 were male (36.4%). During the study period 37.8% of patients who consulted a general practitioner were male. Of the 154 patients attending the musculoskeletal clinic, there was one patient in the 0–19 years age group, 18.2% of patients were aged 20–29 years, 23.4% were aged 30–39 years, 28.6% were aged 40–54 years, 13.6% were aged 55–64 years, 13.0% were aged 65–74 years and four (2.6%) were aged 75 years and over.

Of the three general practitioners referring patients, two referred approximately two patients per 100 seen to the clinic, while the other referred one per 100 patients seen. When working as an occasional general practitioner locum in the practice, the musculoskeletal clinician referred four patients per 100 seen. Sixteen patients referred themselves.

Types of problems referred to clinic

Of the principal problems initially presented to the clinic, over half of the patients (81) reported neck (22), back (44) or sciatic pain (15), 33 presented with large joint pain (14 of whom had shoulder pain), 11 had limb pain (usually of the arm, eight patients), 10 had peripheral joint pain, six had head pain and four had thoracic pain. The other nine patients comprised four patients with paraesthesia, two with congenital deformity, two with stiffness and one with stress.

Diagnoses

The majority of patients seen (125, 81.2%) had musculoskeletal pain which could not be explained in terms of structural pathology (Table 1). Seventy four patients were classified as having spinal somatic dysfunction. Disc prolapse, root entrapment, trauma and inflammation did occur, but relatively rarely.

Table 1. Diagnoses for the 154 patients attending the musculoskeletal clinic.

Diagnosis	Number of patients
Structural pathology	
Arthritis	2
Bursitis	1
Congenital kyphoscoliosis	2
Capsulitis	2
Carpal tunnel syndrome	1
Fasciitis	1
Osteoarthritis	10
Prolapsed intervertebral disc	3
Root entrapment sydrome	5
Tendinitis	2
Non-specific[a]	
Fibrositis	3
Pain arising from ligament	10
Stress related pain	5
Specific joint dysfunction	3
Specific muscle dysfunction	30
Spinal somatic dysfunction	74

[a]Classification based on model of primary somatic dysfunction.[5]

Symptom duration and appointment wait

In 54 of 151 cases (35.8%) the principal symptom had been present for less than one month (Table 2). Of the 26 who had acute symptoms of a week or less, 19 presented via their general practitioner and seven came directly to the clinic. Nine of these acute referrals from the general practitioner were seen in the clinic within one week (five on the same day as they presented), and the remainder within a fortnight. Of the 28 patients with symptoms of eight to 30 days' duration four referred themselves and 24 came via their general practitioner. Half of these were seen within a week and 18 within a fortnight. Twenty three of the 54 patients reported that they had had similar episodes of pain over a number of years. Forty of the 54 patients (74%) attended with neck, back or sciatic pain.

Fifty three patients (35.1%) attended the clinic with pain that had been present for between one month and one year before

Table 2. Duration of problem before presentation at the general practitioner, by sex, age and presenting complaint.[a]

	Duration of problem before presentation			
	0–7 days	8–30 days	31–365 days	366+ days
No. of patients	26	28	53	44
No. of men	15	9	20	12
No. of women	11	19	33	32
Mean age of all patients (years)	40.5	42.2	47.8	46.6
No. of patients with				
Back pain	11	9	14	10
Neck pain	8	4	3	6
Sciatica	2	6	3	4
Large joint pain	4	5	12	12
Limb pain	0	0	8	3
Peripheral joint pain	1	1	3	5
Head pain	0	1	2	3
Thoracic pain	0	1	3	0
Other	0	1	5	1

[a]Data missing for one patient with neck pain; two patients with kyphoscoliosis not included.

they had consulted the general practitioner. Although 13 patients presented with a recurrence of a longstanding musculoskeletal problem of more than one year, the remaining 40 denied any such previous history. Eleven of this latter group (28%) complained of neck, back or sciatic pain.

Forty four patients (29.1%) complained of pain which had been present for more than one year. These patients consulted because of an intermittent or episodic chronic problem, for example, headache or large joint pain, rather than because of a clear recent exacerbation of symptoms. In terms of mean age, there was little to distinguish this group from the others. However, as with those who had had their symptoms for between one month and one year there was a greater proportion of large joint, limb and peripheral joint pain than in the acute groups.

Two patients with congenital kyphoscoliosis were referred to the clinic for advice about exercise.

Treatments

Among the 41 patients who were seen at the clinic only once, four patients had somatic symptoms related to stress so received no treatment and were referred back to their general practitioner. Five others (two with hyperlordosis, two with congenital kyphoscoliosis, and one with osteoarthritis) were assessed as unlikely to benefit from treatment in the musculoskeletal clinic and were given an exercise programme and referred back to their general practitioner to discuss other options for management. The remainder were given a single osteopathic treatment or acupuncture (often with advice for self care and prevention) and asked to return only if they felt it necessary. The majority of patients (80) were treated between two and four times and 25 patients received between five and 10 treatments. Only six patients received courses of 11–15 treatments and two patients were treated more than 15 times. The patients requiring more than 10 treatments either had profound physical problems (such as acute trauma or chronic prolapsed intervertebral disc pain) or had chronic pain requiring regular support. In all, 539 appointments were kept (3.5 per patient) and 26 appointments were missed.

Different patterns of treatment were used. Forty three patients received treatment by the osteopathic manipulative technique only, 11 had this treatment with musculoskeletal acupuncture and 12 had the manipulative treatment followed by acupuncture later. Fourteen patients had musculoskeletal acupuncture only, four had acupuncture followed by osteopathic manipulation later and two had acupuncture followed by injection of trigger points with local anaesthetic. Two patients had treatment by soft tissue articulation techniques (deep tissue massage, pressure techniques and stretching), 14 had this treatment followed by manipulation techniques later, 24 had soft tissue articulation with acupuncture and 10 had soft tissue articulation with specific self care instructions. One patient was given an oral non-steroidal anti-inflammatory drug, three patients received an intralesional triamcinalone injection and one patient had only an injection of trigger points with local anaesthetic. Three patients received self care advice only, six patients were given an exercise programme only and four patients were only assessed. In almost all cases, advice was given about self care, especially about exercise and posture, and this was usually reinforced by appropriate leaflets.

Recurrence of symptoms

It was found that 27 of the 154 patients seen began a second course of treatment within one year of their initial appointment at the clinic; in all but four cases they returned to the clinic on their own initiative rather than seeing their general practitioner first. Ten patients presented with a different problem and of the 17 who returned with the same problem, 13 had back pain. Thirteen patients received a single second treatment and seven patients received more than four.

Referrals

During the study year, nine patients who had attended the clinic were referred to an orthopaedic outpatient department, five at the request of the doctor running the musculoskeletal clinic and four because their general practitioner referred them on for different complaints, subsequent to their attending the musculoskeletal clinic. Two patients were referred to the musculoskeletal clinic from physiotherapy while three others were referred from the clinic to physiotherapy. In one further case, physiotherapy and treatment in the clinic overlapped. One patient who had attended the musculoskeletal clinic was referred to a rheumatology clinic.

During the study period, the practice made a total of 32 other referrals to an orthopaedic outpatient department, 26 to physiotherapy and two to a rheumatology outpatient department. The 29 referrals in total to physiotherapy gave a referral rate of 8.9 per 1000 patients. Forty one patients in total were referred to an orthopaedic specialist, giving a referral rate of 12.6 referrals per 1000 patients. Of these, 11 (27%) had non-specific back, joint and limb pain while the other patients had structural pathology (five patients had back pain). Four patients (two of whom were referred by the musculoskeletal clinician) had chronic non-specific back pain.

In the year following the study period the practice list size grew from a mean for the year of 3264 to 3957 patients, an increase of 21%. The practice as a whole made 49 referrals to an orthopaedic outpatient department, 30 to physiotherapy (referral rate of 7.6 per 1000 patients) and three to a rheumatology outpatient department. Six of the patients referred to an orthopaedic outpatient department had attended the musculoskeletal clinic during the study period. Three of these were referred by the doctor in the musculoskeletal clinic, two by the general practitioner for further management of osteoarthritis of the hip and one was referred with a new problem. One patient who had attended the musculoskeletal clinic was sent to a rheumatology outpatient department with polymyalgia rheumatica.

Discussion

Of the patients referred to the clinic 52% were aged between 30 and 54 years, mirroring the peak incidence of back pain in the general community[1] as well as being in the age band most often referred for physiotherapy.[15]

It is interesting that 81% of the patients in this study presented with mechanical pain and movement restriction in the absence of any obvious traumatic, inflammatory or degenerative cause. According to conventional methods, treatment for the majority of patients classified as suffering non-specific musculoskeletal pain would be either symptomatic or unsupported by published information on precise indications and efficacy. However, in this study a classification, consistent with a model of primary somatic dysfunction, provided a range of diagnostic categories encompassing most patient presentations.[5] Using this classification, pain, movement restriction and tenderness predominating at one spinal segmental level are referred to as spinal somatic dysfunction.[16] Where somatic dysfunction involves a single muscle or group of muscles this is referred to as specific muscle dysfunction;[17] in the case of non-spinal single joint involvement, as specific joint dysfunction. These dysfunction states produce their own distinct palpatory signs which include changes in local tissue tension and range of movement. Osteopathy aims to make clinical diagnoses based on these changes and to provide specific strategies for management and treatment.

The neurophysiological mechanisms that could cause somatic dysfunction are at an early stage of investigation. Slosberg has reviewed some experimental justifications for the concept[18] while Roland has reviewed evidence that cycles of pain–spasm–pain can be continually reinforced by a number of aggravating factors.[19] Such factors would include overloading, unaccustomed use, anxiety and intramuscular metabolite accumulation.

Manipulative approaches to treatment, for which osteopathy is renowned, predominated among this series of patients as the method used first (43% of patients). However, non-manipulative osteopathic techniques such as articulation, deep tissue massage, pressure techniques and stretching, were also interventions of first choice (32% of patients). Dry needling of trigger points (musculoskeletal acupuncture) was less commonly used as a first line treatment (13% of patients). In some cases, additional methods were introduced at subsequent appointments, for instance, where a dysfunctional joint had become amenable to manipulation, or when trigger point pain unresponsive to soft tissue techniques called for more intensive treatment. Trigger point injections with local anaesthetic[17] were usually employed for specific muscle dysfunctions only after manual or needling techniques had failed. Triamcinalone was injected where a problem was clearly a result of an inflammatory lesion, such as bursitis or capsulitis.

Whatever the treatments given, efforts were made to ensure that patients did what they could to minimize factors that would reinforce any pain–spasm–pain cycle. Consequently, advice about posture, appropriate exercise, lifting techniques and patients' working environment was usually given and in some instances relaxation techniques were taught.

Estimates of national figures suggest a referral rate to an orthopaedic specialist of 4.2 per 1000 general practitioner consultations.[20] However, this figure conceals wide variation between practices.[21] In their Oxford study of 73 general practitioners Noone and colleagues found a three-fold variation in referral rates, with an overall figure of 13 referrals per 1000 patients per year to orthopaedic specialists.[22] In another study of 36 practices covering 480 000 patients in Oxford Regional Health Authority during 1990–91 an overall referral rate was found of 15 per 1000 patients, with a broadly similar range of variation.[23] In the present study, the referral rate to an orthopaedic specialist was 12.6 referrals per 1000 patients over the study year. The majority of these patients had structural pathology which could be appropriately managed by an orthopaedic department. But the remaining 27% of these referrals were for non-specific back, joint and limb pain which could have been referred to the practice's musculoskeletal clinic. Five of these referrals (12%) were for back pain, compared with 14% in Bradlow and colleagues' study.[23] Perhaps surprisingly, in this study, access to an expert opinion in musculoskeletal treatments did not seem to have influenced the orthopaedic referral rate for back pain, relative to available national figures. However, four of the five referrals were for chronic non-specific back pain (two referrals having been made by the musculoskeletal clinician and two by general practitioners), and all five patients had long term problems. Having failed to respond to treatment these patients had requested the reassurance of a further opinion. In none of these cases was a specific surgical intervention offered by the orthopaedic department.

This finding raises the question of how best to make use of an inhouse musculoskeletal clinic. As well as being an opportunity to improve patient management such a service allows general practitioners to increase their knowledge and skills. The 21 patients with non-specific musculoskeletal pain whom it would have been appropriate to treat in the clinic were instead referred by the general practitioners to orthopaedic specialists or to physiotherapists. This suggests that communication had not, at this stage, been sufficiently developed for adequate learning.[24] Furthermore, few precedents exist for collaboration between general practitioners and osteopaths and both parties were having to learn a new style of interdisciplinary cooperation. When introducing a new inhouse clinic, but especially one involving complementary medicine, time is needed for the new team member to establish credibility and confidence as a specialist resource in the practice.[25]

A survey of 20 general practitioners in Liverpool found a referral rate to a physiotherapy department of 22 per 1000 patients.[15] By comparison, the practice referral rate was nine per 1000 patients for the study year and eight per 1000 patients in the following year. Referrals to rheumatology outpatient clinics were fewer. Whereas national average rates (0.8 per 1000 general practitioner consultations[20]) would have predicted 4.5 referrals in the study period, in fact only three were made and the same in the following the year.

No comparable figures were available for referral rates prior to the clinic being established. However, it appears that, at least compared with national figures, the clinic influenced referral rates to physiotherapy and rheumatology more than it changed general practitioners' referrals to orthopaedic outpatient departments. Improving feedback between general practitioners and the musculoskeletal clinician, allowing more reflection on referrals made both to the clinic and externally, may lead to a more appropriate use of resources. A prospective study testing this hypothesis is currently under way.

Recurrences in the second year and referral on to musculoskeletal specialties of patients in the study group were unusual, indicating that the clinic was providing effective management. As acute musculoskeletal pain is often self limiting,[3] many patients may have recovered while on an outpatient waiting list. Almost two thirds of those referred to the clinic had medium to long term problems and spontaneous improvement in this group would have been unlikely. Had these patients not been referred to the clinic, management might have been by the general practitioner prescribing drugs or giving advice about posture, home exercise and rest or by referral, especially to the physiotherapy department.

Several authors have suggested not only that referrals for musculoskeletal problems are increasing,[26] but also that they could often be avoided if resources were available for practitioners to cope with the majority of complaints which are a result of non-inflammatory disorders.[27,28] This study suggests that a general practice based musculoskeletal clinic can provide a specialist opinion coupled with readily available treatment, when indicated. In this study, few patients returned to general practitioners for further help, the clinic was generally able to cope with those recurrences that did occur, and the practice had a relatively low level of referrals to physiotherapy and rheumatology. We suggest that similar musculoskeletal clinics could offer effective and appropriate resources for diagnosing and managing the majority of patients presenting with musculoskeletal problems in general practice.

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