

An Audit of the Effectiveness of Acupuncture on Musculoskeletal Pain in Primary Health Care

Elisa Kam, Guy Eslick, Ian Campbell

Summary

Little is known about the use of acupuncture in general practice. We performed a retrospective review of the use of acupuncture in relieving musculoskeletal pain, a condition that is commonly encountered in general practice. A sample of 116 patient records was reviewed, from which 92 patients (mean age 52 years; 64% female) met the inclusion criterion of musculoskeletal pain. Information obtained included age, sex, diagnosis, duration of the problem, length of treatment (weeks), number of treatments, duration of each treatment (minutes), number of needles used, level of benefit obtained from the treatment, and recurrence of pain. There were many different conditions encountered.

We found an association between the general practitioner using fewer needles and patients experiencing greater pain relief. This could be a reflection of treating myofascial pain syndromes, which often appear to respond well to a single needle in the key trigger point. Overall, we found that sixty-nine percent of patients had a good or excellent response to acupuncture treatment. We recommend acupuncture as a treatment option for patients who do not respond to the usual therapies (non-steroidal anti-inflammatory drugs) for musculoskeletal conditions.

Keywords

Acupuncture, general practitioner, primary care, musculoskeletal pain.

Introduction

The popularity of complementary and alternative medicine (CAM) is rapidly rising within western populations and, as a consequence, there is increasing interest from medical practitioners. Current estimates show that 1 in 5 people in the UK use complementary therapy, with acupuncture being one of the most popular forms.¹ There is currently a debate about the place of CAM within mainstream medicine.² In July 2000, national news bulletins reported that the British Medical Association (BMA) had endorsed the use of acupuncture as an alternative form of pain control.³

Acupuncture is a widely used form of traditional Chinese medicine which involves the insertion of fine needles into certain points to restore internal balance or flow of Chi (energy); it is the internal imbalance which leads to illness.⁴ Each acupuncture point has a defined therapeutic action, and a range of points is usually used. In the West, acupuncture has become associated with analgesia, its appeal being increased by plausible

biological mechanisms for its action, such as the gate theory and endorphin release or the insertion of needles into myofascial trigger points in a muscle causing a reflex relaxation.⁵

This study reports on a general practitioner (IKC) who had completed a training course organised by the British Medical Acupuncture Society in 1999, and had begun to use this form of therapy to treat his patients, particularly those with musculoskeletal pain, but often also problems such as hyperemesis gravidarum, irritable bowel syndrome (IBS) and dysmenorrhoea. The patients were selected for acupuncture based on failed medical therapy and willingness to participate. Discontinuation of analgesia or non-steroidal anti-inflammatory drugs (NSAIDs) was encouraged during the course of acupuncture.

The main aims of this review were to determine how successful acupuncture was in the treatment of musculoskeletal pain in General Practice, and to assess the implications for

Elisa PY Kam
medical house officer
Ipswich, Suffolk

Guy D Eslick
clinical epidemiologist
University of Sydney
Penrith, Australia

Ian K Campbell
general practitioner
King's Lynn, Norfolk

Correspondence:
Guy D Eslick

eslickg@med.usyd.edu.au

General Practice of the provision of this therapy in terms of time and resources.

Methods

During the period 1999 to 2000 the records of 116 patients who had been treated with acupuncture at the practice were reviewed. This consisted of all patients treated using acupuncture during this time period. Patients were excluded from this study if they were treated for conditions other than musculoskeletal pain, if the details of the benefit of the treatment were not available or patient consent was not obtained for the data to be used in the study.

Pain was assessed using a Visual Analogue Scale (VAS) on a scale of 0-10; with 10 being the worst pain experienced and 0 (zero) being no pain. The scale was stated verbally to each patient (e.g., "On a scale from 0 to 10, with 10 being the worst pain and 0 being no pain, how would you describe your pain?"). Patients did not get to see their previous assessments. The treatment benefit was grouped into three categories: a reduction in pain of 70-100% was classified as excellent, a reduction of pain of 30-70% was classified as good and a reduction in pain of 0-30% was classified as poor. The benefit was based on the last recorded entry in the patient notes and patients were contacted by telephone if the benefit could not be obtained from the notes.

Secondary analyses were performed comparing patient and treatment variables of age (15-25, 26-35, 36-45, 46-55, 56-65, 66-75, >75), sex, duration of pain (weeks), diagnosis, number of treatments (number of acupuncture treatments completed), duration of each treatment (minutes),

number of needles (number of needles used during each treatment) and recurrence rates. Analysis was carried out using the statistical software STATA, version 6.0.⁶ All results were based on frequency tables and chi-square tests were used. All p-values calculated are two-tailed and the alpha-level of statistical significance was set at 0.05.

Results

From the original 116 patient records reviewed, 92 met the inclusion criteria for this study. Sixty-four per cent (59/92) were female and 36% (33/92) were male. The mean age of the patients was 52 years (SD= 16.64, range=15-90). Using a t-test there was no significant difference in age between females and males ($p=0.5$) (figure 1).

The prevalence of conditions treated were: 23% (21/92) backache; 18% (17/92) neck pain, 13% (12/92) shoulder pain, 8% (7/92) headaches, 7% (6/92) chest wall pain and 31% (29/92) had hip, knee, ankle, foot, elbow or hand pain (figure 2). The duration of the pain ranged between one week and 25 years, with 50% (46/92) of the patients being symptomatic for over six months. The mean number of acupuncture treatments was three (SD=1.65, range=1-8). The mean duration time of each treatment was three minutes (SD=0.53, range=2-4). The mean number of needles used during each treatment was three (SD=1.08, range=1-6).

The reported treatment benefit was 34% (31/92) excellent, 35% (32/92) good, and 31% (28/92) poor (figure 3).

Secondary analyses indicated that knee and shoulder pain required a greater number of treatments compared with other diagnoses

Figure 1 Prevalence % of age and gender of those participating in the acupuncture study

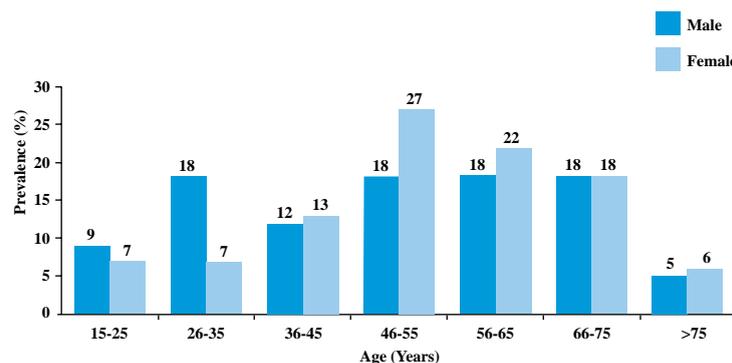


Figure 2 Prevalence of the most common diagnoses made among the study group

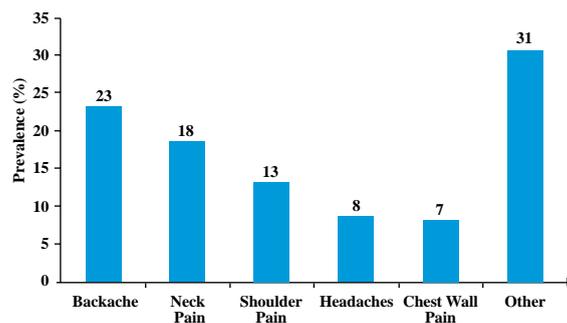
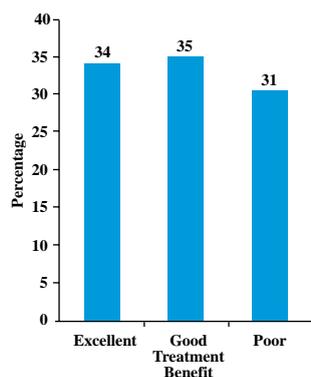


Figure 3 Reported treatment benefit



($p=0.002$). Patients who attended for fewer sessions obtained the greatest benefit ($p=0.002$). It was found that the greater the number of treatments the less likely it was for pain recurrence ($p=0.001$). Females were six times more likely to present with recurrent pain compared to males who had undergone acupuncture treatment (OR=5.76, 95% CI: 1.23-26.92, $p=0.01$). There was less recurrence among those who had the greatest benefit compared with a higher recurrence rate among those who reported a poor benefit to treatment ($p=0.007$). In addition, we found that fewer needles used was associated with greater benefit to the patient ($p=0.05$).

Discussion

Our study suggests that the benefits of acupuncture for musculoskeletal pain are promising. Sixty-nine per cent of people had a good or excellent response to the acupuncture treatment i.e. at least a 30% reduction in pain. It would be interesting to follow-up these patients and determine whether the effect is lasting.

The majority of patients treated consisted of two groups – they were either teenagers or

middle-aged adults. This age range and the male/female ratio of the patients treated with acupuncture reflected the population within the catchment area of the general practice. No significant relationship was found between the variables of patient demographics (age and sex) and the benefit of acupuncture treatment.

The mean duration of each acupuncture treatment was three minutes and there was no significant difference found in benefit and duration of treatment. This suggests that the duration of treatment can be reduced to the lower range of two minutes. Moreover, the standard consultation time in general practice is ten minutes; hence an acupuncture session would fit within such a time limit.

The average number of treatment visits per patient for acupuncture was three. There are obviously implications for costs to the NHS. It was not feasible to estimate the cost-effectiveness of the acupuncture in this study, but this is an important area requiring consideration of many factors, including the cost of drugs, visits to a General Practitioner, altered numbers of secondary referrals and cost of adverse events.

Experienced acupuncturists have reported (anecdotally) a correlation between the use of fewer needles and a positive outcome. It is said that the fewer needles used to achieve success, the better the technique. The explanation for the correlation in this audit may lie in the points used during the treatment, chance, or may simply be a reflection of the efficacy of needling in myofascial pain syndromes compared with other forms of musculoskeletal pain.

The prevalence of conditions treated seems to roughly reflect the types of musculoskeletal problems seen in general practice, with back pain being the most prevalent. Ernst and White found that acupuncture was better than no treatment in their meta-analysis of acupuncture for back pain,⁷ although the Cochrane review, which did not pool the results, was not as positive. In other conditions, such as neck pain, the results are even less conclusive.⁸ In this study, no significant difference was found between benefit and diagnosis, possibly due to the relatively small numbers in each diagnosis group.

This study intends only to be a review of a

General Practitioner's first year in using acupuncture. There are limitations to the interpretation of the results due to the small time frame and numbers involved, but what seems clear from the cases analysed is that both patients with acute pain and those with chronic pain benefited. Data collection, even from a single institution such as this, will add valuable information to an area lacking in research.⁸ Future research should consist of longitudinal studies as these types of study designs represent a substantial improvement over a case-series or cross-sectional design studies.

The success of this general practitioner's acupuncture service as perceived by his patients has led to an increase in demand for this treatment. Unfortunately, as the Practice receives no extra funding for offering acupuncture, there are limits on the number of appointments that can be set aside for acupuncture in a normal working week. IKC would like to expand the provision of this service in his practice and would like, along with a majority of general practitioners (79%), to see acupuncture provided in the National Health Service (NHS).⁹ A greater understanding is required of possible models of service provision in order to facilitate the potential integration of acupuncture into the NHS. This year sees the advent of Primary Care Trusts, which will galvanize the need to investigate the optimum method of service provision nationally.

It has been estimated that there have been over 3,000 clinical trials evaluating traditional Chinese medicine published in China.¹⁰ However, these have not benefited from rigorous clinical trial design. Worldwide, there has been a dearth of randomised control trials in this area. In this era of evidence-based medicine, it would be unethical to propose expansion of a treatment, which has not been put through the same vigorous testing that conventional therapies have been subjected to. It has been reported that only 0.08% of the NHS Research and Development funds was used for complementary medicine research in 1996¹¹ and only 0.05% of medical charity funds was spent on complementary medicine in 1999.¹² Considering 1 in 5 of the population may be using complementary medicine in the UK, these sums seem meagre.

At present, nearly 4,000 conventional healthcare

professionals practise complementary medicine in the UK and are members of their own register having completed varied training programs.¹³ The BMA calls for more consensus from the government, Department of Health, NHS Executive, the medical profession, and acupuncture organisations, to provide guidelines and agree how acupuncture and other complementary and alternative medicine services can be integrated into the United Kingdom healthcare system.⁸ We concur whole-heartedly with the BMA's report; if there is such an upsurge of interest, perhaps more so after the positive reporting by the media on the launch of the BMA report, there must be adequate management of the expansion of provision of acupuncture to ensure that safety and training of acupuncturists are adequate.

Reference list

1. Ernst E, White A. The BBC survey of complementary medicine use in the UK. *Complement Ther Med* 2000;8(1):32-6.
2. Smith I. Commissioning complementary medicine. *BMJ* 1995;310(6988):1151-2.
3. Silvert M. Acupuncture wins BMA approval. *BMJ* 2000;321(7252):11.
4. Zhang E.(Ed.) *Basic Theory of Traditional Chinese Medicine*. Publishing House of Shanghai College of Traditional Chinese Medicine, 1990.
5. Filshie J, White A. *Medical Acupuncture: A Western Scientific Approach*. Edinburgh, Churchill-Livingstone, 1998.
6. StataCorp. 1999. *Stata Statistical Software: Release 6.0*. College Station, TX: Stata Corporation.
7. Ernst E. and White A.R. Acupuncture for Back Pain: A Meta-analysis of Randomised Control Trials. *Arch Intern Med* 1998;158(20):2235-41.
8. *Acupuncture: efficacy, safety and practice*. BMA 2000. <http://www.bma.org.uk>
9. Paterson C. Complementary practitioners as part of the primary health care team: consulting patterns, patient characteristics and patient outcomes. *Fam Pract* 1997;14(5):347-54.
10. Tang JL, Zhan SY, Ernst E. Review of randomised controlled trials of traditional Chinese medicine. *BMJ* 1999;319(7203):160-1.
11. Ernst E. Regulating complementary medicine. Only 0.08% of funding for research in NHS goes to complementary medicine. *BMJ* 1996;313(7061):882.
12. Ernst E. Funding research into complementary medicine: the situation in Britain. *Complement Ther Med* 1999;7(4):250-3.
13. Zollman C, Vickers A. ABC of complementary medicine. Users and practitioners of complementary medicine. *BMJ* 1999;319(7213):836-8.