Singapore Med J 1999; Vol 40(4):260-264

Acupuncture Treatment at Ang Mo Kio Community Hospital – A Report on Our Initial Experience

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ABSTRACT

Background: We report our initial experience with acupuncture treatment at the Ang Mo Kio Community Hospital's Acupuncture Research Clinic.

Patients: One thousand one hundred and twenty-eight patients received a total of 12,172 acupuncture treatment sessions during the period between September 1995 and December 1996. The majority were Chinese (94%), between 40 – 70 years (70%) with either dialect or Mandarin (68%) as the main spoken language. However, one third of the patients were English speaking, and educational level did not seem to be a factor among our patients accepting acupuncture treatment. Most had either painful conditions (58%) or stroke-related dysfunction (23%). Amongst the painful conditions, arthritis (25%), low back pain (22%) and other musculo-skeletal pain (12%) were the most common.

Results: Prior to treatment, about three-quarter of patients believed acupuncture would benefit them while 40% had tried acupuncture before. After completion of treatment, 70% of all patients considered acupuncture safe, 54% were satisfied with the overall result, 51% felt acupuncture was beneficial, while 54% would recommend acupuncture to others with similar conditions. In a subgroup of patients treated for painful conditions, > 90% reported improvement. Near-syncope occurred in 2 patients (0.18%) or during 2 treatment sessions (0.02%). There was no other acupuncture-related complication.

Conclusion: Our preliminary experience showed that acupuncture is safe, and appears to be beneficial to patients with painful conditions. An overview of acupuncture treatment is presented, and the issues of safety, efficacy and a need to conduct randomised controlled clinical trials are discussed.

Keywords: acupuncture, Singapore, pain, stroke, safety

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INTRODUCTION

During the last 20 years, the interest in alternative or complementary therapies has increased world-wide. Of these therapies, traditional Chinese medicine (TCM) has generated the most research interest among Western medical practitioners. Acupuncture is the best known and accepted treatment modality in TCM. Because of the wide indication of its therapeutic properties, simplicity in application, low cost and rapid results for treatment of some disorders, acupuncture has spread world-wide during the last 2 decades. In Singapore, TCM forms part of our Asian culture and heritage. It has a long history and remains popular amongst our locals. In one survey, 45% of Singaporeans had consulted a TCM practitioner[1]. It can contribute towards our medical care by complementing Western medicine[2]. In September 1995, the Ministry of Health set up the first Acupuncture Research Clinic (ARC) in Ang Mo Kio Community Hospital (AMKCH) as a pilot project to study the management of certain types of patients using acupuncture. We report our initial experience on patients who were treated during the period from September 1995 to December 1996 at this clinic.

MATERIALS & METHODS

Two acupuncturists from the China Academy of Traditional Chinese Medicine in Beijing were recruited to carry out acupuncture at ARC. Between them, they shared 44 years of experience. Patients were all referred by Western-trained doctors. A medical officer and one of the two acupuncturists vetted all referral forms. Based on the information given in the referral form, patients were given an appointment if they had a medical condition suitable for, and had no other medical conditions contraindicated to acupuncture. During their first visit, the acupuncturist assessed their medical condition, determined the suitability for acupuncture and initiated the first treatment session. Each treatment session usually lasted half an hour. These patients underwent one or more treatment courses and each treatment course comprised 6 – 10 treatment sessions. Acupuncture techniques used included needle (with or without electrical stimulation) and/or laser acupuncture, supplemented with moxibustion or cupping (vacuum suction).

Data on all referrals, as well as treated cases were compiled in the database. Data from September 1995 to December 1996 were analysed with respect to patient demographic, and treatment safety and efficacy. Telephone interviews were conducted in the month in a subgroup of patients treated for painful conditions.

RESULTS

1. Referrals and acceptance for acupuncture treatment

The number of referrals during the period from September 1995 to December 1996, was 1,620. Based on the information given in the referral forms, 249 referrals (15.4%) were rejected for the following reasons: a) patients had a medical condition not suitable for or beneficial from acupuncture; b) patients had skin disease or trauma which would not favour needling; c) patients had uncontrolled/active co-morbid medical illnesses (eg. hypertension, chronic obstructive airway disease, ischaemic heart disease, haematological disorder etc). One hundred and fifty two patients (9.4%) who were accepted and given an appointment did not turn up for their first visit. The acupuncturist rejected another 91 patients (5.6%) after their first attendance, as they were deemed unsuitable for acupuncture. The remaining 1,128 (69.6%) patients received acupuncture treatment. Of these, 73% stated that their referrals were initiated by their Western trained doctor, 19% had asked to be referred themselves whilst 8% had been encouraged to do so by friends or relatives.

2. Patient characteristics

Seventy percent of patients were in the 40 to 69-year age group while 16% were below 40 years and 14% were 70 years and older (Fig 1). Fifty-four percent were females while 46% were males. Ninety-four percent were Chinese, 3.9% were Indians, 1.4% were Malays and 0.7% were Others. Thirty-seven percent had no formal education while 12%, 30% and 21% had completed primary, secondary and tertiary education respectively. Fifty-five percent spoke mainly Mandarin, 32% mainly English and 13% mainly dialects.

3. Patients' perception of acupuncture

On the first visit, patients' attitude and acceptance of the therapeutic benefits of acupuncture treatment were assessed by asking them whether they felt or believed acupuncture was better than Western medicine. Fifteen percent believed that acupuncture was superior, 59% felt that acupuncture was equal or slightly less 'powerful' against Western medicine, 23% were unsure and 3% felt it was of no benefit. 41.8% had tried acupuncture before. Of these, 65.6% had found acupuncture beneficial.

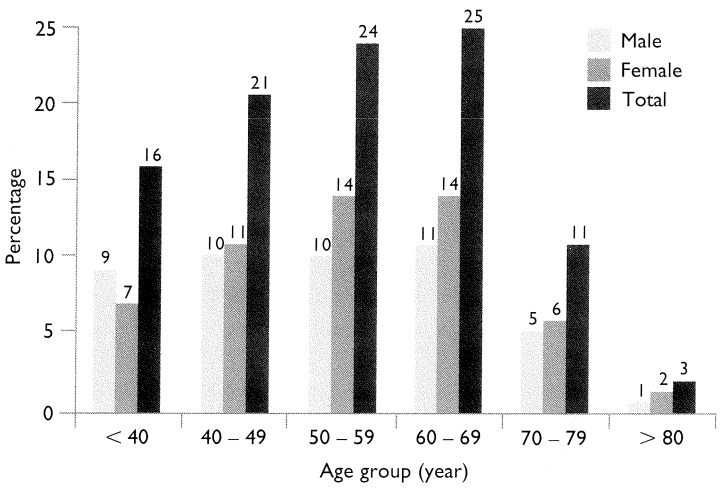

Fig 1 – Distribution by age and sex

4. Medical conditions treated by acupuncture

The majority of cases treated were either painful conditions (58%) or dysfunction due to stroke (23%). Amongst painful conditions, arthritis (25%), low back pain (22%) and other musculo-skeletal pain (12%) were the most common. Other conditions treated by acupuncture included spasticity, weakness due to neuropathy/myopathy, bronchitis, sinusitis, urinary incontinence, facial spasms, tinnitus and smoking (19%) (Fig 2 and Table I).

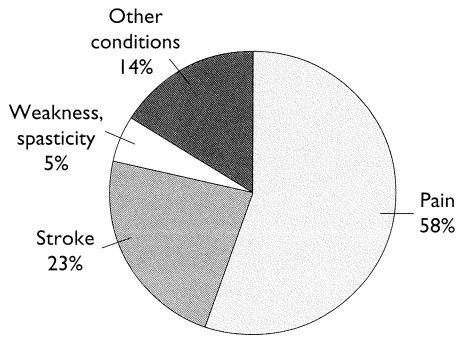

Fig 2 – Types of medical conditions treated by acupuncture

5. Treatment sessions

A total of 12,172 treatment sessions were given to 1,128 patients. The majority had between 6 – 10 treatment sessions (39%) or between 11 – 20 treatments (32%) (Fig 3). Two-thirds (66%) completed the full course while the rest stopped treatment prematurely. Reasons for not completing the planned treatment course(s) were: (a) patients themselves stopped attending treatment as they did not perceive a beneficial effect up to a certain point (26.6%); (b) the acupuncturist terminated the treatment as there was little or no further benefit (40.4%); (c) inconvenience or impossible for patients to attend regular (usually alternate day) sessions especially in those who required more than 1 course of treatment (15.5%); (d) patients felt 'cured' hence did not see the need or a necessity to comply with the full prescribed course (10.3%); (e) other factors included uncontrolled BP, undue fear or anxiety with needles, etc. (7.2%).

6. Adverse effects

Of the 1,128 patients who had acupuncture (in a total of 12,172 treatment sessions), only 2 patients (0.18%) developed near syncope in 2 treatment sessions (0.02%). One patient reported fear of needles while the other was feeling hungry, as she had not taken her meals earlier on. Both patients were rested and reassured before continuing acupuncture treatment. Both completed the full course without further episode of near syncope. Local complications like haematomas, skin infection or blister were not observed.

Table I – List of medical conditions treated by acupuncture at ARC

Stroke	
Cerebral embolism	Cerebral haemorrhage
Cerebral thrombosis	
Pain	
Achilles tendinitis	Osteoarthritis
Carpal tunnel syndrome	Heel pain
Cervical spondylosis	Peripheral neuropathy
Common cold with myalgia	Sciatica
Frozen shoulder	Rheumatoid arthritis
Headache, other than migraine	Soft tissue damage
Interspinal ligament damage	Subacrominal bursitis
Low backache	Supra-orbital neuralgia
Migraine	Bicepital tendinitis
Musculoskeletal pain	Tennis elbow
Neck sprain	Trigeminal neuralgia
Occipital neuralgia	Trigger finger
Others	
Anxiety, neurosis	Incontinence of urine
Bronchitis	Sinusitis
Epilepsy	Smoking cessation
Facial paralysis (Bell's palsy)	Tinnitus
Hemi-facial spasm	

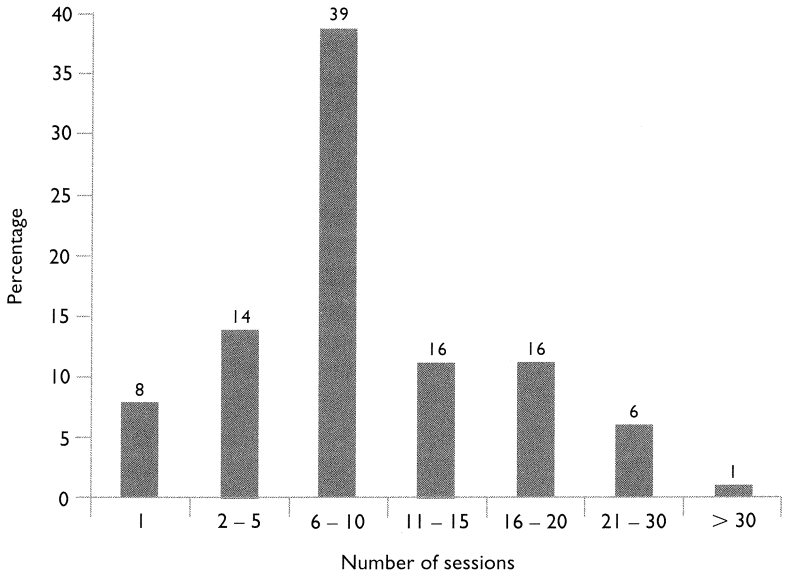

Fig 3 – Number of sessions attended.

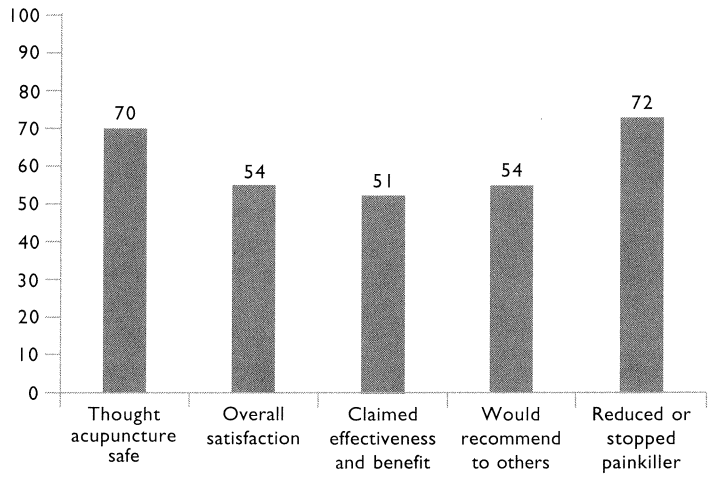

Fig 4 – Post-treatment evaluation.

7. Post-treatment evaluation

All patients were surveyed on their views with regards to the safety and effectiveness of, and their overall satisfaction with acupuncture at the end of treatment (Fig 4). Seventy percent of patients considered acupuncture to be safe; 54% were satisfied with the overall result; 51% felt that acupuncture was effective and beneficial, while 54% would recommend acupuncture to others with similar conditions.

The subgroup of patients treated for painful conditions (n = 654) was analysed for their responses to acupuncture. Sixty percent of these patients had 11 – 20 treatment sessions, 23% had ≤ 10 sessions and 17% had ≥ 20 sessions. Before treatment, pain was mild in 6%, moderate in 40% and severe in 54% of patients. Almost half of the latter patients reported that their pain was so severe that it interfered with various aspects of their lives, such as disrupting their activities of daily living, sleep, work and even caused mental distress. After treatment, 25% became pain-free, 68% reported mild pain while 7% reported no change or worsening in pain. Seventy-two percent of patients reported that they had either reduced or stopped taking analgesic altogether during or after acupuncture treatment.

A random sample of 200 patients who had either reported a cure or had enjoyed marked improvement in pain relief after treatment were interviewed six months later to determine whether the pain relief was long-lasting. While 19% remained pain-free, 37% had recurrence of pain but of a less intensity compared with pre-treatment. The remaining 41% had recurrence of pain as severe as pre-treatment.

DISCUSSION

Acupuncture, as the derivation of the word implies (acus = needle; puncta = puncture), is the insertion of a needle into the skin of the human body. It has been practiced in China for several thousand years. The earliest available written record is from the third century BC in the Yellow Emperor's Classic of Medicine[3]. The procedure spread to Southeast Asia and Japan as early as the 17th century. The use of acupuncture for the relief of pain and muscular disability first appeared in England about 125 years ago[4]. Acupuncture became popular in North America only in the 1970s after President Richard Nixon visited China.

Acupuncture is performed at certain specified points (acupuncture points) located on the 14 major meridians of the body. There are over 1,000 acupuncture points that have been determined by trial and error. However it is difficult to discern any histological difference between acupuncture points and non-acupuncture points, though many of these points are found to be located in close relation to superficial nerves. According to the TCM concept, diseases in humans are triggered off by an imbalance between the *Yin* (negative) and the *Yang* (positive) forces. Acupuncture is supposed to restore the balance between these two forces by the regulation of *Qi* (vital energy) circulating in meridians that are accessible at

acupuncture points. A lack of scientific studies to prove or disprove these concepts and the acupuncture's claimed effects led to its initial rejection by many practitioners of orthodox Western medicine.

Traditionally, acupuncture points are stimulated either by puncture and manual manipulation of solid needles or by local heating. Heating is generally accomplished by the burning of dried, powdered *artemisia vulgaris* (moxa), referred to as moxibustion. The moxa is either placed or held just above the acupoint by the acupuncturist (indirect moxibustion), attached to a needle penetrating the point, or applied directly to the skin (direct moxibustion, generally removed prior to causing any detectable skin-burn). In modern times, additional methods are used to stimulate acupoints. These include applications of electric current to needles in the points or skin electrodes over the points, injections into the points, laser-light directed onto the points, or finger-pressure massage of selected points (acupressure). Many new points and whole new systems of points have been described on specific body-parts, leading to scalp-acupuncture, hand-acupuncture, and ear-acupuncture. Electronic gadgets are being used to locate acupuncture points by measuring alteration of skin resistance to electric current. In addition, computerised manikins have been developed to guide selection of acupuncture points according to certain symptoms.

Acupuncture has gradually gained acceptance in the Western community over the last 10 – 20 years. The World Health Organisation (WHO) and the National Institute of Health (NIH) recognised acupuncture as an important form of alternative medicine. In 1979, the WHO recommended a list of 43 diseases or medical conditions for which acupuncture is of considerable value as a clinical procedure[5]. In 1985, and again in 1987, the WHO adopted a resolution which recognised the role of acupuncture as an appropriate medical technology. This technology could be integrated into national health strategies, and urged member countries to initiate programmes of research, training and information in the light of their specific needs and circumstances. In 1994, a WHO Working Group formulated a report to facilitate and promote Clinical Research Methodology for Acupuncture[6]. In 1996, the US Food and Drug Administration reclassified acupuncture needles as Class II (no longer experimental) medical devices[7]. In November 1997, the NIH held a consensus development conference on acupuncture[8]. The panel of specialists concluded at the conference that acupuncture was effective in treating adult post-operative and chemotherapy nausea and vomiting, and post-operative dental pain. They also stated that acupuncture might be useful as an adjunct treatment, acceptable alternative or be included in a comprehensive management program for stroke rehabilitation, headache, tennis elbow, carpal tunnel syndrome, lower backache, osteoarthritis, fibromyalgia, myofascial pain, menstrual cramps, drug addiction, and asthma[8].

Based on the recommendations of the WHO and discretion of acupuncturists, ARC accepted patients who mainly have painful medical conditions and stroke-related dysfunction. These constituted > 80% of all treated cases. The post-treatment interview in the subgroup of patients with painful conditions indicated that this group of patients benefited from acupuncture. A quarter of patients became asymptomatic while another two-thirds reported a reduction of pain (ie. > 90% of patients improved), usually after completion of 1 – 2 courses or 10 – 20 treatment sessions. Slightly more than half of patients whose painful condition improved with acupuncture continued to enjoy the benefits of acupuncture 6 months later (19% pain free, 37% had less pain than before). However, pain returned to the previous level in about 40% of patients. It thus appears that acupuncture is effective for the relief of pain though its effect cannot be sustained in some patients. However, our acupuncturists treated these patients only with acupuncture and were not involved in the prescription or adjustment of analgesic medications. Pain relief from concurrent analgesic dose adjustment from the referring doctor cannot be excluded.

How could insertion of needles at certain body points possibly relieve pain and treat other diseases? Pomeranz elegantly summarised several scientific studies conducted on both animals and humans and concluded that acupuncture analgesia is a physiological rather than a placebo or psychological effect[9]. In brief, the analgesic effect is initiated by strong stimulation of type II and III high-threshold muscle sensory nerves, which send messages to the spinal cord, midbrain and pituitary to release opioid peptides (mainly endophines) to block pain. Opioid antagonists such as naloxone could reverse the analgesic effects of acupuncture. Blood cortisol levels are also elevated, which may explain prolonged effects. However, for other illnesses such as asthma and stroke, the exact mechanism is still uncertain.

An acupuncture treatment is a procedure, like surgery or a psychotherapy session, rather than a drug. For this reason it has been very difficult to subject acupuncture to the gold-standard of randomised blinded trials, and almost impossible to conduct truly double-blind trials (acupuncturists cannot be blinded). Nevertheless, there are many well-designed randomised controlled clinical trials especially in pain, emesis, stroke, respiratory disease and substance abuse[10-12]. In some studies, acupuncture proved as good as current standard care for pain conditions, and usually without the side effects commonly associated with the standard therapies. However, meta-analysis in the study of acupuncture is difficult to accomplish because the manner of treatment, the types of control, the sites of diseases, and even the outcomes measured to determine success are so varied.

The majority of our patients were Chinese (94%) who used either dialect or Mandarin (68%) as the main spoken language. It is interesting to note that one third of the patients spoke English. Educational level did not seem to be a factor among our patients who accepted acupuncture treatment. About three-

quarter of our patients believed that acupuncture was superior or equal to Western medicine even before they received acupuncture treatment at ARC. Two in 5 patients had already tried acupuncture before the referral to our centre. This indicates that it is the culture of our society, rather than the educational background of our patients that determines the acceptability of acupuncture. The belief that acupuncture would benefit them might have contributed to the marked improvement of symptoms in those treated for painful conditions.

We would like to stress that our study was not a randomised controlled clinical trial. Therefore, placebo effects could have played a certain role in patients with painful conditions. Like any therapeutic intervention, many factors may profoundly determine therapeutic outcome. These include the quality of the relationship between the clinician and the patient, the degree of trust, the expectations of the patient, the compatibility of the backgrounds and belief systems of the clinician and the patient, as well as a myriad of factors that together define the therapeutic milieu. Therefore, randomised controlled clinical trials, though might not be easily carried out in acupuncture research, are probably the best method to prove acupuncture efficacy.

Acupuncture is an invasive procedure and several complications have been recorded in the literature[13-15]. The complications included: (a) misplacement or breakage of acupuncture needles; (b) damage to the underlying structure such as blood vessels, abdominal and thoracic viscera, or spinal cord; (c) infection including abscess formation at acupuncture site, septicemia or endocarditis, and (d) transmission of infections such as HIV and viral hepatitis. These complications were associated with poor technique being employed by incompetent practitioners with inadequate knowledge, training or skills, and a poor practice of hygiene standards. Obviously, there are probably other complications that have not been documented because non-Western trained physicians do not usually report complications in Western medical literature. Western-trained physicians may be unaware of these complications, or have not yet documented them. In our study, none of our patients developed serious local or systemic complications. Only two patients (0.18%) encountered transient and non-recurring adverse event (near syncope) during 2 treatment sessions (0.02%). The vast experience of our acupuncturists could explain the very low incidence of complications in our series. It is also worth noting that none of the patients who did not complete the treatment course dropped out because of acupuncture-related side effects.

One third of our patients did not complete the full course of treatment as planned. Although treatment was terminated by the acupuncturists in 40% of these patients because of absence of meaningful improvement of medical condition, more than half (52%) was due to non-compliance. This highlights an important issue, that in order to benefit from acupuncture, patients need to attend regular treatment sessions and complete the prescribed course(s). This might be difficult or impossible for some patients who find regular attendance at acupuncture clinic inconvenient and time-consuming. It would be more problematic for patients with physical disability (eg. post-stoke patients with hemiplegia) and dependent on their family members to provide transport.

In conclusion, acupuncture is safe and appears to be beneficial for the relief of pain though its effect was not sustained in some patients. More randomised controlled clinical trials are needed to determine the subgroup of patients who would benefit most from acupuncture, and the types of illness which acupuncture might be useful as an adjunct treatment, an acceptable alternative or be included in a comprehensive management program.

ACKNOWLEDGEMENT

The authors would like to thank Dr Chen Ai Ju, DMS, MOH, for allowing us to publish the data, and A/Prof Ng Tze Pin for his advice on statistics.

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