Provision of acupuncture for people with pain in Australian Emergency Departments

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Outline

1. Population survey - CAM use in Australia
2. Literature review of acupuncture use in the emergency departments in hospitals and evidence for pain management
4. Surveyed ED medical staff’s view on acupuncture use in the ED
5. Developed and implemented a protocol for a randomised single blind controlled trial of acupuncture as analgesia in hospital ED’s (NHMRC funded)
6. General comments
Acupuncture usage in Australia

Acupuncture

- A regulated profession in Victoria since 2000 and nationally from July 2012 under the Chinese Medicine Board of Australia

- One of the most commonly used forms of complementary therapies used by the medical profession and other allied health professionals

- Nearly one in ten (9.2%) Australians used acupuncture in a 12-month period. Australians made over 10 million visits to acupuncturists p.a. (Xue et al 2007, JACM).

- Nearly one in five (18%) general medical practitioners practise acupuncture as part of their primary care practice; and

- 76% of medical practitioners referred patients to acupuncturists at least once a month (Cohen et al 2005, JACM).
Use of Chinese medicine in Australia, 2005

Nationwide, approx. 1 in 5 Australian used Chinese medicine in 2005.
Indications for acupuncture –
WHO recommendations (2002)

- Bodily pain:
  - Facial pain, dental pain, temporal mandibular joint disorder, headache, neck pain
  - Peri-arthritis of shoulder, tennis elbow
  - Knee pain, low back pain, sciatica
  - Rheumatoid arthritis
  - Sprain
- Postoperative pain
- Visceral pain
  - primary dysmenorrhoea, acute epigastric pain, biliary colic, renal colic
Acute Pain Management

Acute pain is one of the most common symptoms attending EDs. In UK, of the 13 million ED visits each year, around 25% with some form of acute pain symptom.

(Meikle J. 2005. www.guardian.co.uk/medicine/story/0,11381,1544615,00.html)

Use of wide spectrum of pain-relief methods including analgesic drugs, local anaesthesia, and non-pharmacologic methods of pain relief.

Studies show inadequate pain management are often observed in EDs.

(Grant et al, 2006, The American Journal of Emergency Medicine)
Since 1984, acupuncture has been reimbursed by the Australian National Health System under the Medicare Benefits Scheme (MBS) (items 173, 193, 195, 197 and 199)

In the 2009/2010 total of 537,785 acupuncture services reimbursed Medicare cost of $21,143,968. Of these 49 out of more than 500,000 related to services delivered within hospitals at a cost of $1,821. (Australian Government Medicare statistics)

In Australia, acupuncture is rarely used in hospital settings
Acupuncture in EDs

A US study investigated the ‘Efficacy and feasibility of acupuncture for patients in the ED with acute, non-penetrating musculoskeletal injury of the extremities (n=20 patients)

–Median change in VAS score from pre-acupuncture to time immediately after acupuncture (n = 16) was 16 mm, with a range of 0 to 60 mm (P < .0001). From pre-acupuncture to time 1 hour after acupuncture (n = 8), median change was 19 mm

–no significant difference in ‘Time in Department’ between those who received acupuncture and those who did not (P = .07)

–Comments: acupuncture may be an efficacious, safe, and feasible analgesic alternative for patients presenting to the ED with minor acute injury to the extremities.

(Arnold 2009, Efficacy and feasibility of acupuncture for patients in the ED with acute, nonpenetrating musculoskeletal injury of the extremities, AJEM)
Acupuncture in EDs

• 87 patients presented with acute pain to a ED in Maryland, US

• Participants in the acupuncture group experienced a 23% reduction in pain before leaving the ED, while average pain levels in participants in the standard medical care group remained basically unchanged. \( p < 0.0005 \)

(Goertz, et al. Military Medicine 2006)
RMIT- The Northern Hospital Acupuncture Program

The Northern Hospital -- The busiest Emergency Department (ED) in the State of Victoria (>70,000 patients/year, admission rate = 20%)

Acupuncture program introduced on 28 June 05

Provided by senior Chinese Medicine students, under direct supervision of registered Chinese medicine practitioners

Operated 2 afternoons (5 hours per day) per week
Phase I (Pilot phase 1: Jun 05 – Sep 05)

- 95 patients treated (46 received analgesia prior to acupuncture treatment, 49 did not), the team review the progress


- 787 patients approached, 524 agreed to receive acupuncture treatment (66.6%), 458 completed treatment (87.4% of those agreed or 58.2% of all approached)

Comments

- Acupuncture in ED appeared feasible and patients’ interest was substantial

- The Australian Health Workforce Report 2006: the number of complementary medicine health workers increased substantially from 2001 to 2006: qualified acupuncturists are highly sought

- Phase I and II pilot data used in grant applications
A Melbourne hospital is challenging the traditional approach to medicine by treating patients with acupuncture in its emergency department.

The Northern Hospital will later this month be the first to offer the traditional Chinese treatment - one firmly resisted by some doctors.

The hospital has Victoria’s busiest emergency department - it treated almost 15,000 patients in the September quarter last year, many of whom did not need emergency care.

The decision to offer acupuncture follows a three-month trial about a year ago, which found acupuncture was useful in treating pain quickly. It will be used to treat patients whose appropriate and who consent, as long as their condition is not critical.

Medical science and ancient techniques are combining to enhance drug-free pain relief in post-operative and road trauma patients at St John of God Rehabilitation Hospital.

Five of Victoria’s physiotherapists have undertaken a course in dry needling developed by Australian Physiotherapist Jorgen Fodberg.

Patients are reporting positive results from the technique, which involves using needles today, in many countries both medical doctors and physiotherapists are using dry needling effectively and extensively for relieving pain and dysfunction.

Physiotherapists around the world are using acupuncture and Chinese medical therapies, with many integrating them into their practice.

The Chinese Medicine department at RMIT’s School of Health Sciences, the largest provider of Chinese medicine studies in Australia, is collaborating with a range of Victorian hospitals to trial the use and benefits of ancient remedies such as acupuncture and ginseng.

Acupuncture has been trialled on patients suffering acute pain in emergency rooms at the Alfred, Northern, Epworth and Cabrini Hospitals, while ginseng - a root believed to increase stamina and quality of life since the 11th century - is being tested to relieve symptoms of chronic lung disease at Box Hill Hospital and Austin Health.
Phase III: Feasibility Study
(Funded by the Department of Health, Victorian Government, study period Jan-Aug 2010)

Rationale

Anecdotally, the availability of acupuncture service as an adjunct to routine medical care improved the therapeutic outcomes for the patient who presented to ED with an acute pain conditions

Primary objectives:

- Pain reduction after acupuncture treatment
- Evaluate safety of acupuncture
- Evaluate acupuncture impacts on staff time and patient flow at EDs
Participants flow

1. Patients arrived at the emergency department
2. Screened at triage
   - Stay at Waiting Room
     - Treated by a medical doctor in Consultation Room
       - Received acupuncture in Treatment Room
         - Reviewed by a medical doctor
           - Discharge
     - Received acupuncture in cubicle
   - Admitted to a cubicle
     - Treated by a medical doctor in cubicle
       - Received acupuncture in cubicle
         - Reviewed by a medical doctor
           - Discharge
Results: Phase III

- 200 patients in acupuncture group with historical controls of 200 closely matched patients from ED electronic health records.

- Refusal rate 31%, with “symptoms under control due to medical treatment before acupuncture” the most prevalent reason for refusal (n = 36);

- Approx. half (52.5%) of participants responded ‘definitely yes’ for their willingness to repeat acupuncture, 31.8% responded ‘probably yes’

- Over half (57%) reported a satisfaction score of 10 for acupuncture treatment.

- Musculoskeletal conditions were most common treated n=117 (58.5%) followed by abdominal or flank pain n = 49 (24.5%).
Results 2: Phase III

- Adverse events were rare: 2% and mild
- Pain (VAS 0-10) and nausea (Marrow Index 1-6) scores reduced from a mean 7.01 ± 2.02 before acupuncture to 4.72 ± 2.62 after acupuncture and from 2.6 ± 2.19 to 1.42 ± 1.86, respectively.
- There was no significant difference in waiting time between acupuncture and control groups [mean=85.08 mins and 85.89 mins, t(398) = -0.112, p =.91].
- 55 patients received acupuncture before seeing a physician, waiting time was 66+/−10 minutes vs 145 patients use acupuncture after seeing a doctor: 134+/−4.95 minutes, p<0.001
- ED staff time managing patients: acupuncture before physician consultation: n=55: 182+/−99 minutes; acupuncture after physician consultation: 273+/−152 minutes

(Zhang AL et al. Acupunct Med 2014 March 8)
Survey on ED medical staff

• A cross-sectional survey: Out of 60 surveys, 37 surveys (a response rate of 61.7%) complete.

• 32 questions on ED Staff’s knowledge and understanding of acupuncture

• 87.8% of the staff considered that acupuncture should be an option of treatment provided by the hospital

• Over half (56.3%) participants agreed introduction of acupuncture in hospitals would reduce workload of ED staff

• 93.7% considered patients with low back pain may benefit from acupuncture

• Most (90.6%) of the staff considered that acupuncture is safe to receive in conjunction with conventional medicine.
Phase IV RCT (Funded by NHMRC, 2009-2013)

- Multiple Emergency Department Acupuncture Controlled Trials (MEDACT)
  - Alfred Hospital
  - Northern Hospital
  - Epworth Hospital
  - Cabrini Hospital

Targeted sample size: 505

- 3 conditions: Acute ankle sprain, Acute Migraine, Acute Back Pain
- 3 groups: Acupuncture alone, Acupuncture plus Pharmacotherapy & Pharmacotherapy alone

Protocol

Hypotheses

• Acupuncture alone provides pain relief comparable (equivalent) to standard pharmacotherapy for these three conditions

• Acupuncture plus pharmacotherapy provides pain relief comparable (equivalent) to pharmacotherapy alone

• That acupuncture alone, or as an adjunct to pharmacotherapy, provides clinically significant improvement in functionality, is safe and acceptable to patients and reduces health resource utilisation
Study participant flow

- 1: Patient identification, Screening (inclusion/exclusion) and Consent
- 2: Randomization
- 3: Baseline measurements
- 4: Treatment
- 5: Blinded assessor t1 (1 hour post treatment) data measures and AE’s (Adverse Events)
- 6: Blinded assessor t2, t3….. etc (hourly) data scores and AE’s until discharge
- 7: Blinded assessor follow up phone call (48 hours +/-12 post discharge) data measures and AE’s
- 8: End of study participation
Preliminary Findings

• 539 patients recruited
• Trial completed
• Data being analysed
Comments

• Acupuncture can be an effective and safe adjunct intervention for patients with acute pain in settings such as the emergency pain management environment.

• Acupuncture as an add-on treatment does not increase length of stay.

• Integration of acupuncture in the hospital setting is generally welcomed by medical staff if the intervention is being provided by qualified acupuncturists.
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