

Australian Journal of Acupuncture and Chinese Medicine

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Editorial

It is with pleasure that I write the guest editorial while the Editor-in-Chief, Dr Zheng, is on a well-earned academic sabbatical (including leave of editorship for this issue).

It is just under one year ago that statutory registration for Chinese medicine was introduced across Australia. An essential aim of national registration is to improve the standard of knowledge and practice as a way to further safeguard the public from unethical and unsafe practices. To this end, journals such as this one and conferences such as the upcoming WFAS Sydney 2013, the 8th World Conference on Acupuncture, intend to upskill and improve professional knowledge. It is only by keeping up to date and informed that the registered Chinese medicine practitioner maintains scholarship and contributes to the development of the profession. Both papers in this issue emerge from such a space.

The first paper looks at the published evidence available on the use of acupuncture and acupressure for nausea and vomiting. In this systematic review, the authors conclude that acupuncture has the ability for 'reducing the frequency of vomiting and reducing the use of rescue medication, while acupressure has shown a decrease in the frequency of nausea'. They also suggest that future trials should be adequately powered and focus on refractory symptoms. This is indeed supporting evidence as more cancer patients seek out acupuncture and acupressure as an adjunct to their cancer treatment.

The second paper, while not clinically focused, questions several directions taken over the last 40 years, as Chinese medicine engages and develops in both China and the West, including Australia. The author argues that both bioscientific and socio-historical research (the two main forms of research undertaken in the last few decades), while having some benefits for the development of Chinese medicine, have not lived up to their expectations and that maintaining these approaches 'present a significant challenge for the preservation of Chinese medicine as a distinct medical discipline'. She does, however, propose some strategies forward and suggests that practitioners and researchers should 'cultivate a more traditional Chinese medical gaze' in order to meet the challenges of the future.

Of course, included in this issue are our usual research snapshots, book reviews and some conference reports that should keep you reading to the late hour. Just remember to supplement your liver blood or needle GB37 *Guangming* ('bright light'). Next issue, our Editor-in-Chief returns and we will update you on further developments of the Australian Chinese medicine and acupuncture scene. Don't forget, we need your contributions – a book review, seminar report, research snapshot, case study or even a full manuscript would all be appreciated.

Chris Zaslowski
Acting Editor-in-Chief

Acupuncture and Acupressure for Chemotherapy-Induced Nausea and Vomiting: A Systematic Review

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ABSTRACT

Background: Control of chemotherapy-induced nausea and vomiting (CINV) has improved with advances in antiemetics, such as NK¹ antagonists. Despite these advances, patients still experience these symptoms, and expert panels encourage additional methods to reduce these symptoms. **Objectives:** The objective was to assess the effectiveness of acupuncture and acupressure on acute and delayed CINV in cancer patients. **Search strategy:** The following databases were searched: AMED, MEDLINE, CINAHL, PubMed, Cochrane Controlled Trials Registry, and Science Direct. The search was undertaken from the inception of the database to January 2012. **Selection criteria:** Randomised controlled trials and systematic reviews of acupoint stimulation by needles, electrical stimulation or acupressure (excluding laser, point injection and non-invasive electrostimulation) and assessing chemotherapy-induced nausea or vomiting, or both. **Data collection and analysis:** Data was provided by publications of original trials and pooled. Standardised mean differences with confidence incidences were calculated. **Main results:** Seven trials were pooled for acupuncture and six for acupressure. Acupuncture reduced the frequency of acute vomiting (mean difference [MD] -7.40, 95% confidence interval [CI] -9.07 to -5.72), but did not reduce acute nausea severity or frequency compared to control. Delayed symptoms for acupuncture were not reported. Acupuncture showed a reduction in the dose of rescue medication (MD -5.52, 95% CI -7.45 to -3.58). Acupressure showed a decrease in frequency of nausea (MD -0.32, 95% CI -0.59 to 0.06) but not acute vomiting or delayed symptoms. All trials used state-of-the-art combination antiemetics, except for the early electroacupuncture trials. **Authors' conclusions:** Acupuncture has demonstrated some benefit for chemotherapy-induced acute vomiting by reducing the frequency of vomiting and reducing the use of rescue medication, while acupressure has shown a decrease in the frequency of nausea. Further trials of acupuncture and acupressure for chemotherapy-induced nausea and vomiting in patients with refractory symptoms are needed before recommendations for clinical practice can be made. Future trials must be sufficiently powered, as this remains a major flaw with the majority of studies to date.

KEYWORDS acupuncture points, nausea/chemically induced, electroacupuncture, vomiting/chemically induced, cancer, antineoplastic agents/adverse effects

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Introduction

Nausea is defined as an unpleasant feeling in the throat or stomach that may or may not lead to expulsion of stomach contents; vomiting is a motor reflex resulting in the expulsion of stomach contents.¹ Nausea and vomiting are among the most distressing and debilitating adverse effects identified by patients receiving chemotherapy treatment.^{2,3} These symptoms continue to be a major concern for patients despite new and improved antiemetic therapy.⁴⁻⁶ Patients have expressed a fear of developing these adverse effects.⁷ Chemotherapy-induced nausea and vomiting (CINV) is defined as acute (occurring within the first 24 hours post treatment) and delayed (occurring from 24–120 hours post treatment). Acute and delayed CINV are identified as two different clinical aetiologies. Acute CINV is related to serotonin release, whereas delayed CINV is related in part to substance P.⁸ The prevalence of acute and delayed CINV is approximately 40%–60% and 40%–80% respectively.²

Another type of CINV is defined as anticipatory. This is thought to be a conditioned reflex as a result of poor prior control of emesis⁸ and affects approximately 25% of patients after four cycles of chemotherapy.^{1,9}

The current management of CINV involves the use of 5-HT₃ receptor antagonists such as ondansetron, granisetron and palonosetron. 5-HT₃ antagonists are more effective against acute CINV, being minimally to moderately effective in delayed CINV. Their effect is increased when combined with a corticosteroid, normally dexamethasone.¹⁰ Anticipatory CINV is linked to psychological processes and management is aimed at providing good control of acute and delayed CINV, and subsequently introducing behavioral interventions such as progressive muscle relaxation, other relaxation techniques and systematic desensitisation.^{1,9}

A more recently developed antiemetic used in chemotherapy is aprepitant, a neurokinin-1-receptor antagonist, which has particularly increased the control of delayed CINV and has also shown benefit in acute CINV. However, despite advances in antiemetic therapy, there are still individuals who experience some form of CINV, most commonly delayed nausea.

Reviews on the control of CINV identified that non-pharmacological methods are a useful addition to standard treatment with antiemetics.⁷ A growing number of studies have shown a benefit from electroacupuncture for CINV. Although acupuncture for CINV has been investigated previously, further high quality research is needed.¹¹⁻²⁰ Since the publication of a review in 2006²¹ on acupoint stimulation for CINV, several clinical trials have been published. The objective of this review

is to examine the effectiveness of acupuncture and acupressure with the management of acute and delayed CINV.

Methods: Criteria for considering studies for this review

TYPES OF STUDIES

Systematic reviews and randomised controlled trials (RCTs), including parallel and crossover designs, were included. In the crossover trials, data from the first phase only was analysed, as the sufficiency of the washout period was unknown. Quasi-experimental trials were excluded.

TYPES OF PARTICIPANTS

Adults and children (aged 6–18 years old) receiving chemotherapy for any cancer were included.

TYPES OF INTERVENTIONS TO BE INCLUDED

Acupuncture involving stimulation using manual acupuncture, electroacupuncture and acupressure (pressure applied to acupoints) were included. Styles of acupuncture practised included traditional Chinese medicine (TCM), medical, auricular and Japanese. Laser acupuncture, point injection and non-invasive electrostimulation were excluded.

Control groups included: placebo acupuncture (defined as non-penetrating needles at same acupoints or non-acupoints, minimal invasive needling or sham acupuncture with no or little stimulation with a non acupoint, electroacupuncture inert position and no electrical stimulation) and placebo acupressure (defined as acupressure at non-acupoint or acupressure band with no button). Other control groups include standard care, including pharmacological interventions or other active intervention.

TYPES OF OUTCOME MEASURES

Frequency and severity of acute or delayed CINV, as measured by numbered rating scales, visual analogue scales, Rhodes Index of Nausea, Vomiting and Retching (RINV) and the Morrow Assessment of Nausea and Emesis (MANE) tool. Other measures include quality of life, use of rescue medications and breakthrough antiemetics.

SEARCH STRATEGY

The following databases were searched: AMED, MEDLINE, CINAHL, PubMed, Cochrane Controlled Trials Registry and Science Direct. The search was undertaken from the inception of the database to January 2012. Reference lists were reviewed for any possible missed trials.

The search strategy was limited to randomised controlled trials, reviews and systematic reviews only. Terms utilised include

acupuncture, acup*, electroacup*, electro-acup*, acupuncture therapy, traditional Chinese medicine, nausea, vomiting, cytotoxic, antineoplastic, chemotherapy, sham acupuncture and MESH headings.

Only English language texts were considered. Unpublished data was included in the analysis if obtainable.

Methods of the review

STUDY SELECTION

One reviewer performed the literature search and reviewed the citation list. Two reviewers independently reviewed all articles for study inclusion or exclusion and any disagreement not resolved by discussion was referred to the third reviewer for resolution.

DATA EXTRACTION

Following an assessment of study eligibility, two reviewers extracted data.

For each trial, the data extracted included the number of treatments, the number of needles utilised, the style of point selection and the time of needle retention. For the acupressure studies, data was collated on the duration of acupressure stimulation and type of stimulation, and the number of times points were stimulated. The following characteristics of the trial were documented including the number of participants, details of the control arms, study setting and the country of the trial. The authors were contacted to obtain additional information for unclear reporting or for primary data.

ASSESSMENT OF RISK OF BIAS

To assess the risk of bias for clinical trials a modified ten-point scale developed by Joanna Briggs Institute (JBI)²² was used.

The scale assessed bias in relation to:

- Randomisation
- Control design
- Blinding
- Attrition: dropouts and withdrawals.

The quality of systematic reviews was assessed using the Critical Appraisal Skills Programme (CASP)²³ tool adapted from Oxman.²⁴

MEASURES OF TREATMENT EFFECT

Data entry and statistical analysis was performed using Review Manager²⁵ software.

A statistical summary of the data was undertaken with continuous data expressed as mean difference (MD) with 95% confidence intervals (CI) and no missing scores being input.

Results

SYSTEMATIC REVIEW

Only one systematic review was identified: a Cochrane systematic review published in 2006.²¹

The Cochrane systematic review²¹ was of a high methodological quality.

- The review asked a clearly focused question in relation to the population, interventions and outcomes considered and included randomised controlled trials (RCT) only.
- The method of the review clearly stated the databases used, follow-up of references and the limitations of not including unpublished studies or non-English language studies in the search.
- A clearly defined strategy was used for assessing the quality of the included studies, looking at antiemetic regimens, acupoint stimulation procedure and methodological quality of the studies.
- Data meta-analysis for each study was displayed clearly as relative risks, standardised mean difference and 95% confidence intervals.
- The authors identified heterogeneity in some trials in their analysis.
- The treated population was varied, allowing the ability to generalise study findings.
- The review clearly identified the implications for practice, concluding the practice is safe with minimal side effects, and identifying a need for further research.

The Cochrane review²¹ identified a total of 1 247 participants from a total of 11 RCTs. Four were acupuncture or electroacupuncture trials, three used a form of acupressure and the remaining four used noninvasive electrostimulation. The review identified some benefit from acupoint stimulation (manual and electroacupuncture, acupressure and non-invasive electrostimulation) on acute vomiting (RR = 0.82; 95% CI 0.69 to 0.99; $P = 0.04$) but not acute or delayed nausea severity. Acupressure appeared to have a protective effect on acute nausea (MD = -0.19; 95% CI -0.37 to -0.01; $P = 0.04$). Acupuncture reduced the proportion of patients experiencing acute vomiting, but the electroacupuncture trials did not use state-of-the-art antiemetics (RR = 0.74%; 95% CI 0.58 to 0.94; $P = 0.01$). Acupressure was effective in reducing mean and worst acute nausea scores when used in conjunction with state-of-the-art antiemetic therapy.

RANDOMISED CONTROLLED TRIALS

The results of the current search identified trials included in the Cochrane systematic review²¹ (a total of seven) as well as new trials published since 2005. In total 19 trials were identified for eligibility in this review, including the seven trials from the

Cochrane review. Twelve trials were included and seven trials were excluded.

Included trials were Dibble,²⁶ Dibble,²⁷ Dundee,¹³ Dundee,¹² Gottschling,¹⁴ Jones,²⁸ Melchart,¹⁷ Molassiotis,²⁹ Reindl,¹⁸ Roscoe,³⁰ Shen,¹⁹ and Streitberger.²⁰

Seven trials were included in the acupuncture group^{12–14,17–20} and six in the acupressure group.^{17,26–30} One trial¹⁷ was included in both the acupuncture and acupressure interventions compared to standard treatment. A description of the trials is presented in Table 1.

EXCLUDED STUDIES

Seven trials were excluded. Three were excluded due to insufficient data availability or inability to contact the author.^{31–33} One trial was not a randomised controlled trial.¹¹ One trial utilised transcutaneous stimulation bands,³⁴ one trial was not acupressure or acupuncture but used a herbal formula.³⁵ Two trials reported on exploratory analysis of data from previous trial.^{36,37}

EXCLUDED REVIEWS

Six reviews were excluded. Two reviews^{38,39} were excluded as they encompassed all symptoms of cancer treatment and were descriptive reviews. One systematic review addressed only breast cancer patients⁴⁰ with no meta-analysis and another examined all types of nausea and vomiting.⁴¹ One publication was excluded because it was a narrative review of acupressure only.⁴² One review was excluded due to a focus on moxibustion for symptom control in cancer patients.⁴³

CHARACTERISTICS OF THE STUDIES

(SEE TABLE 1)

Four acupuncture trials were conducted in Germany, two in Northern Ireland and one in the United States of America (USA). Four trials were single centre only and three were conducted in a multicentre format. Five trials were undertaken in an inpatient setting, one in an outpatient setting and one in an inpatient and outpatient setting.

Four acupressure studies were conducted in the USA, one in Germany and one in the United Kingdom (UK). Two trials were single centre only and four trials were conducted in multicentres. Three trials were conducted in an inpatient setting and three in an outpatient and inpatient setting.

Sample sizes ranged from 10–739 participants with only five trials^{19,20,27,29,30} having more than 50 participants, the majority having less than 30 participants. Acupuncture trial sample sizes ranged from 10–104, and acupressure trials from 18–739 participants; three trials^{17,26,28} had fewer than 30 participants.

DESCRIPTION OF THE INTERVENTIONS

The acupuncture intervention varied significantly in the point selection, frequency of treatments and total numbers of treatments between trials. The majority of the trials (five of seven) utilised a formula approach to point selection and point selection using only one or two points (PC6 *Neiguan* and ST36 *Zusanli*).

In the acupressure trials, only one trial²⁶ used two points (PC6 *Neiguan* and ST36 *Zusanli*). All other trials stimulated one point only (PC6 *Neiguan*).

The duration of needling varied from 20–40 minutes in one trial¹⁴ with four trials^{17–20} reporting a needling duration of 20 minutes. Two trials^{12,13} did not report on the duration of stimulation. The number of treatment sessions varied from 1–10, with three trials^{13,14,19} having 5–6 treatments. One trial¹⁸ reported administering 8–10 sessions, one trial²⁰ reported two sessions and two trials^{12,17} reported one session only.

Acupressure stimulation method was either by digital pressure^{26,27} or acupressure bands.^{17,28–30} Acupressure stimulation varied from three minutes,^{26,27} to 72 hours¹⁷ to five days,³⁰ with one trial²⁸ not clearly stating the duration. The number of sessions varied greatly from one session^{17,29,30} to ≥ 28 sessions.^{26,27} One trial²⁸ did not clearly state the number.

OUTCOME MEASURES

ACUPUNCTURE OUTCOMES

Primary outcome measures varied between trials. Two trials^{12,13} measured acute vomiting on a four-point scale (very good [no sickness], some benefit [marked reduction in sickness], no change [no benefit] and worse [worse than before]), two trials measured rescue antiemetic use,^{14,18} two assessed the number of vomits^{19,20} and one measured nausea only.¹⁷ Secondary outcome measures also varied. Three trials^{14,18,20} measured number of vomits, two trials^{18,20} measured nausea intensity, two trials^{17,19} measured rescue antiemetic use, one trial¹⁹ measured vomiting-free days, one trial¹⁷ frequency and duration of nausea and vomiting and one trial²⁰ perception of benefit.

Acupressure primary outcomes varied between the trials. Two trials measured nausea scores,^{17,26} two assessed nausea and vomiting scores,^{27,30} one used the Morrow scale²⁸ and one the Rhodes Index of Nausea, Vomiting and Retching (RINV).²⁹ Secondary outcomes measured included nausea intensity (three trials),^{26,27,29} expectations of benefit (two trials),^{28,30} and anxiety states (two trials).^{27,29} One trial each measured satisfaction with treatment,²⁸ quality of life³⁰ and a chemotherapy problem checklist.²⁶

TABLE 1 Characteristics of studies

Dibble 2000

Methods Design: Parallel – Acupressure plus medication vs medication only
Duration: One cycle 21–28 days

Participants Setting: Outpatient oncology clinic teaching hospital and private outpatient oncology practice, USA
Mean age (\pm SD or range): 49.5 (SD = 6.0)
Men/Women (*n/n*): 0/18
Recruitment method: Research assistants approached patients or by their physicians
Inclusion criteria: Receiving CMF (cyclophosphamide, methotrexate and fluorouracil) or a regimen containing doxorubicin, nausea from previous cycle or first cycle of chemotherapy, ability to communicate in English
Exclusion criteria: None stated

Interventions Intervention group: Acupressure
Number allocated to acupressure = 9
Points stimulated: PC 6 and ST 36
Total length of treatment period: 21–28 days, one cycle of chemotherapy
Number of sessions: Daily and when necessary; minimum of 21
Number of points used: 2 points
Duration: Maximum 3 min or until point ‘released’
Method of stimulation: Digital acupressure
Control group: Standard care
Number allocated to control = 9
Total length of treatment period: 21–28 days

Outcomes Nausea – daily score from nausea experience subscale from the INVR and daily intensity scale
Reported as *p*-values and mean with SD

Attrition bias Dropouts/withdrawals: No dropouts or withdrawals

Selection bias Unclear, stated random but not method, unclear if allocation of treatment was concealed from allocator and both groups were comparable at entry

Performance bias Attempt to confirm patient blinding for sham control? Not applicable
Participants not blinded, unclear if assessors were blinded

Measurement bias Low risk bias, both groups treated same, *p*-value analysis reported

Dibble 2007

Methods Design: Parallel – Acupressure plus medication vs sham acupressure plus medication vs medication only
Duration: 21–28 days

Participants Setting: Multicentre, total 19 settings throughout USA in clinical oncology centres
Mean age (\pm SD or range): 49.3 (SD = 9.4)
Men/Women (*n/n*): 0/160
Recruitment method: Not stated
Inclusion criteria: Women receiving cyclophosphamide with or without 5-FU, doxorubicin with paclitaxel or docetaxel, or 5-FU, epirubicin and cyclophosphamide for breast cancer, had moderate nausea on previous chemotherapy cycle (per MANE scale)
Exclusion criteria: Seeing acupuncturist, unable to communicate in English

TABLE 1 Characteristics of studies cont.

Dibble 2007 cont.

Interventions	<p>Intervention group: Acupressure to PC6 Number allocated to acupressure = 53 Style of acupressure: Self acupressure Points stimulated: PC6 Total length of treatment period: 21–28 days, depending on chemotherapy cycle Number of sessions: Minimum of one daily Number of points used: One Duration: 3 min each point Method of stimulation: Digital Control sham group: Acupressure to SI3 Number allocated to control: 53 Style of acupressure: Self acupressure Points stimulated: PC6 Total length of treatment period: 21–28 days depending on chemotherapy cycle Number of sessions: Minimum of one daily Number of points used: One Duration: 3 min each point Method of stimulation: Digital Control group: Standard treatment Number allocated to control = 54 Total length of treatment period: 21–28 days</p>
Outcomes	<p>Acute nausea and vomiting day 1 Delayed emesis days 2 to 11 Delayed nausea days 2 to 11</p>
Selection bias	<p>Yes, participant's allocation concealed Randomised to group, method not stated so unclear and both groups were comparable at entry</p>
Attrition bias	<p>Dropouts/withdrawals: Yes (13 withdrew reasons not stated) not included in analysis</p>
Performance bias	<p>Attempt to confirm patient blinding for sham control? Yes Participants blinded to group, not clear if outcome assessors were blinded, research assistants blinded to active point</p>
Measurement bias	<p>Type of analysis reported: Mean SD, consistent both groups</p>

Dundee 1987

Methods	<p>Design: Crossover within cycle – Acupuncture plus medication vs sham acupuncture plus medication Duration: 3 days</p>
Participants	<p>Setting: Inpatient, Belfast, Northern Ireland Mean age (\pmSD or range): Not provided Men/Women (<i>n/n</i>): 10/0 Recruitment method: Unclear Inclusion criteria: Previous severe sickness after treatment despite metoclopramide Exclusion criteria: None identified</p>

TABLE 1 Characteristics of studies cont.

Dundee 1987 cont.

Interventions	<p>Intervention group: Antiemetics and electroacupuncture to PC 6 Number allocated to acupuncture = 10 Style of acupuncture: Traditional Chinese medicine (TCM) Point selection: Formula Points stimulated: PC 6 Total length of treatment period: 3 days Number of sessions: 5 or 6 Number of points used: One Insertion depth: Not stated Was <i>deqi</i> reportedly sought: Yes Duration: Not stated Method of stimulation: DC stimulator frequency 10 Hz, pulse width 0.25 ms</p> <p>Control group: Antiemetics and sham electroacupuncture to point near right elbow Number allocated to sham acupuncture = 10 Total length of treatment period: 3 days Number of sessions: Maximum one sham treatment in 3 days Number of points used: One Insertion depth: Not stated Was <i>deqi</i> reportedly sought: Not stated Duration: Not stated Method of stimulation: Electroacupuncture was applied via DC stimulator (10 Hz, pulse width 0.25 ms)</p>
Outcomes	<p>Acute vomiting Outcome measured by 4-point scale: very good (no sickness), some benefit (marked reduction in sickness), no change (no benefit) and worse (worse than before) Significant less sickness for PC 6 than sham ($p < 0.001$) Control from previous study showed 52 of 54 patients on cisplatin who had distressing symptoms after first treatment had just as severe the subsequent treatment</p>
Selection bias	<p>Stated that patients were unaware of allocation. Random selection but methods not clear. Unclear if allocator blinded to treatment group allocation and unsure if both groups were comparable at entry</p>
Attrition bias	<p>No dropouts or withdrawals, low risk of bias</p>
Performance bias	<p>Attempt to confirm patient blinding for sham control? No Participants were blinded, unclear if outcome assessors blinded, observers not always blinded as patient conveyed site of acupuncture</p>
Measurement bias	<p>Type of analysis reported: p-value same for both groups</p>
Notes	<p>Did not identify time of stimulation Drop reasons not identified Older study, not using modern antiemetics</p>
Dundee 1988	
Methods	<p>Design: Parallel – Acupuncture vs medication only Duration: 5 min</p>

TABLE 1 Characteristics of studies cont.

Dundee 1988 cont.

Participants	Setting: Outpatients clinic, Belfast, Northern Ireland Mean age (\pm SD or range): Not stated Men/Women (<i>n/n</i>): Not stated 20 total Recruitment method: Not stated Inclusion criteria: First cycle chemotherapy Exclusion criteria: None stated
Interventions	Intervention group: Antiemetics and electroacupuncture to PC 6 Number allocated to acupuncture = 10 Style of acupuncture: TCM Point selection: Formula Points stimulated: PC 6 Total length of treatment period: One
Outcomes	Acute vomiting measured at 8–10 hr post chemotherapy administration Scale moderate or slight – though improvement not statistically significant
Selection bias	Unclear – randomised from previously prepared list – unsure who and how list was generated or if allocation to group concealed from the allocator and unsure if both groups were comparable at entry
Attrition bias	No dropouts or withdrawals, low risk of bias
Performance bias	Attempt to confirm patient blinding for sham control? Not applicable Blinding: Patients not blinded, observer was blinded
Measurement bias	Not clearly stated if outcome measure carried out in reliable way
Notes	Older study, not using modern antiemetics

Gottschling 2008

Methods	Design: Crossover – Acupuncture plus medication vs medication only Duration: Varied from 4–5 days depending on chemotherapy treatment. Offered first day then succeeding days depending on patient's decision. Two cycles were observed, one with acupuncture and one without. Total time 4 weeks.
Participants	Setting: 5 paediatric inpatient settings, Germany Mean age (\pm SD or range): 13.6 \pm 2.9 Men/Women (<i>n/n</i>): (10/13) Recruitment method: Not clearly stated Inclusion criteria: Receiving 3 identical courses of highly emetogenic chemotherapy (relating to type amount of antineoplastic agents) for solid tumours Exclusion criteria: Patients with full control of CINV without the need for rescue medications in first cycle, age under 6 and over 18 years, cerebral metastasis
Interventions	Intervention group: Standard antiemetics and acupuncture day 1 prior to chemotherapy and following 4 or 5 days depending on patient's request Number allocated to acupuncture = 23 Style of acupuncture: TCM Point selection: Flexible, practitioner decision based on TCM principles Points stimulated: Most commonly used points, PC 6, ST 36, CV 12 and LI 4

TABLE 1 Characteristics of studies cont.

Gottschling 2008 cont.

Interventions cont.	Total length of treatment period: 4 weeks including washout period of two weeks between cycles Number of sessions: Maximum of 6 Number of points used: Not stated, stated could be unilateral or bilateral Insertion depth: Not stated Was <i>deqi</i> reportedly sought: Yes Duration: 20–40 min Method of stimulation: Manual acupuncture Control group: Standard antiemetics only Number allocated to control = 23 Total length of treatment period: 4 weeks in total, control was one cycle either 4 or 5 days
Outcomes	Primary outcome – antiemetic rescue medication use, obtained from chart documentation Secondary outcome – number of episodes of retching and vomiting, obtained from chart documentation
Selection bias	Patient randomised by computer generation sequencer and notified by phone. Allocation of treatment was concealed from allocator and both groups were comparable at entry
Attrition bias	No dropouts or withdrawals, low risk of bias
Performance bias	Attempt to confirm patient blinding for sham control? Not applicable. Participants not blinded due to study design. Unclear if outcome assessors blinded
Measurement bias	Type of analysis reported: Period effects both mean and standard error and treatment effects and treatment effect being equal in both periods
Notes	Patients also documented their subjective experience of acupuncture in a short open-form essay

Jones 2008

Methods	Design: Crossover – Acupressure plus medication vs sham acupressure plus medication vs medication only Duration: 1–5 days for each cycle and total 3 cycles
Participants	Setting: Children’s inpatient hospital USA Mean age (\pm SD or range): 5–19 (two sequence 11.7 \pm 4.2 and 12.5 \pm 3.6) Men/Women (<i>n/n</i>): 9/9 Recruitment method: Not stated Inclusion criteria: Patients receiving chemotherapy that included one of the following: an alkylating agent, an antitumour antibiotic or high dose cytarabine Exclusion criteria: Not receiving 3 cycles of chemotherapy, more than 7 years of age and did not assent, or not English-speaking
Interventions	Intervention group: Acupressure wrist band Number allocated to acupressure = 18 Point selection: Formula Points stimulated: PC6 Total length of treatment period: Time of chemotherapy treatment, not clearly stated as varied Number of sessions: One session Number of points used: One Duration: Not clear, could be hours to days Method of stimulation: Sea-Bands, elastic wrist band with plastic button Control group 1: Sham acupressure wrist band

TABLE 1 Characteristics of studies cont.

Jones 2008 cont.

Interventions cont.	<p>Number allocated to control = 18 Total length of treatment period: Unclear, could be hours to days Method of stimulation: Sea-Bands, elastic wrist band with no plastic button Control group 2: No acupressure Number allocated to control: 18 Total length of treatment period: Unclear</p>
Outcomes	<p>Modified Morrow with questions written in age appropriate language. Nausea measured with 11-point Likert scale. Previous knowledge and experience with acupuncture/acupressure, expectations of nausea prevention, episodes of emesis, degree of nausea at various time points, side effect, satisfaction and perceived differences acupressure and placebo bands</p>
Selection bias	<p>Patient randomised, method unclear and unclear if allocation of treatment was concealed from allocator and both groups were comparable at entry</p>
Attrition bias	<p>Dropouts/withdrawals: Yes (1 died, 1 incomplete data and 1 changed chemotherapy) but not included in analysis</p>
Performance bias	<p>Attempt to confirm patient blinding for sham control? Not applicable Participants were blinded, unclear if the outcome assessors were blinded</p>
Measurement bias	<p>Type of analysis reported: Mean and SD and consistent in both groups</p>

Melchart 2006

Methods	<p>Design: Crossover – Acupuncture plus acupressure plus medication vs sham acupuncture plus sham acupressure plus medication Duration: Two cycles of chemotherapy, not clearly stated</p>
Participants	<p>Setting: 1 hospital, Munich, Germany Mean age (\pmSD or range): 57 (17–72) Men/Women (<i>n/n</i>): 18/9 Recruitment method: Not stated Inclusion criteria: Scheduled for moderately or highly emetogenic chemotherapy regimes, standard antiemetics and additional medication for two chemotherapy cycle and ages between 18–75 Exclusion criteria: Anticipatory nausea and vomiting, chemotherapy within past 3 months, cerebral metastases, chronic ileus or sub ileus, lymphoedema of arms</p>
Interventions	<p>Intervention group: Antiemetics and acupuncture followed by acupressure bands Number allocated to acupuncture = 10 Style of acupuncture: TCM Point selection: Formula Points stimulated: PC 6 Total length of treatment period: 7 days for each cycle, total 2 cycles Number of sessions: One Number of points used: One Insertion depth: 0.5–1 cm Was <i>deqi</i> reportedly sought: Yes Duration: 20 min acupuncture, 72 hr acupressure bands and further 4 days if needed Method of stimulation: Manual and acupressure band Control group: Antiemetics and sham acupuncture and acupressure bands Number allocated to acupuncture = 11</p>

TABLE 1 Characteristics of studies cont.

Melchart 2006 cont.

Interventions cont.	<p>Points stimulated: Sham point located 3–4 cm proximal to wrist crease; insertion of needle under the radius</p> <p>Total length of treatment period: 7 days for each cycle, total 2 cycles</p> <p>Number of sessions: One</p> <p>Number of points used: One</p> <p>Insertion depth: 0.5 cm</p> <p>Was <i>deqi</i> reportedly sought: Not sought, needle not manipulated</p> <p>Duration: 20 min for acupuncture followed by 72 hr with acupressure band</p> <p>Method of stimulation: Manual sham acupuncture and sham acupressure band</p>
Outcomes	<p>Nausea and vomiting, antiemetic rescue medication</p> <p>Daily diary completed for 7 days, (intensity scale 0–6) documenting frequency and duration of nausea and vomiting and use of additional antiemetic medication. Shortened version of the MANE (Morrow Assessment of Nausea and Vomiting)</p> <p>Main outcome was the intra-individual difference of the nausea score (sum of intensity rating for nausea in the diary range 0–48) between acupuncture and sham acupuncture</p> <p>Secondary outcome measures were:</p> <p>No nausea at all</p> <p>No vomiting</p> <p>Complete control (no vomiting and nausea score <9)</p> <p>Hours with nausea</p> <p>Number of vomiting episodes</p> <p>Use of rescue medication</p> <p>Acupuncture/acupressure helped a lot</p> <p>Preference</p> <p>Adverse effects</p>
Selection bias	Participants randomised with computer random generation and concealed envelopes and allocator blinded to allocation of treatment group and unclear if both groups were comparable at entry
Attrition bias	Dropouts/withdrawals: Yes (3 change chemotherapy/death, 1 time problems, 1 ineffective and 1 no data) but not included in analysis
Performance bias	Attempt to confirm patient blinding for sham control? Not applicable Assessors of outcomes blinded to allocation – nursing staff and oncologist were blinded to allocation arm
Measurement bias	Type of analysis reported: Relative risks or mean difference

Molassiotis 2006

Methods	<p>Design: Parallel – Acupressure plus medication vs medication only</p> <p>Duration: 5 days</p>
Participants	<p>Setting: Two centres in the UK, one cancer centre at general hospital and one a specialist cancer hospital</p> <p>Mean age (\pmSD or range): 51 (\pm12.2)</p> <p>Men/Women (<i>n/n</i>): 0/54</p> <p>Recruitment method: Not stated</p> <p>Inclusion criteria: Diagnosis breast cancer, chemotherapy naïve, receiving doxorubicin and cyclophosphamide or equivalent epirubicin protocols</p> <p>Exclusion criteria: Palliative chemotherapy, less than 3 months to live, metastatic disease, suffered from bowel obstruction, having concurrent radiotherapy or had lymphoedema of the arms</p>

TABLE 1 Characteristics of studies cont.

Molassiotis 2006 cont.

Interventions	<p>Intervention group: Acupressure bands Number allocated to acupressure = 17 Point selection: Formula Points stimulated: PC6 Total length of treatment period: 5 days Number of sessions: 1 Number of points used: 1 Duration: 5 days Method of stimulation: Sea-Band wrist bands Control group: No acupressure Number allocated to control = 19 Total length of treatment period: 5 days</p>
Outcomes	<p>Revised Rhodes Index of Nausea, Vomiting and Retching (INVR), number of times wristband stud was pressed, antiemetic use</p>
Attrition bias	<p>Dropouts/withdrawals: Yes (18 not completed study reasons not stated, 6 control group and 12 experimental group) not included in analysis</p>
Selection bias	<p>Patient effectively randomised, allocation of group concealed from allocator and both groups comparable at entry</p>
Performance bias	<p>Attempt to confirm patient blinding for sham control? Not applicable Participants not blinded, unclear if outcome assessors were blinded</p>
Measurement bias	<p>Type of analysis reported: <i>p</i>-value, utilised on both groups</p>

Reindl 2006

Methods	<p>Design: Crossover – Acupuncture plus medication vs medication only Duration: Total of 3 cycles, time not specified</p>
Participants	<p>Setting: 4 inpatient paediatric centres, Germany Mean age (\pmSD or range): 15.2 (10.0–16.8) Men/Women (<i>n/n</i>): 4/7 Recruitment method: Not stated Inclusion criteria: Patients aged 6–18 years who receive several courses of highly emetogenic chemotherapy treating Ewing's sarcoma, rhabdomyosarcoma and osteosarcoma having 5HT₃ antagonists as basic antiemetic medication Exclusion criteria: No exclusion criteria listed</p>
Interventions	<p>Intervention group: Standard antiemetics and acupuncture on day 1 prior to chemotherapy and subsequent 4 or 5 days Number allocated to acupuncture = 11 Style of acupuncture: TCM Point selection: Flexible, practitioner decision based on TCM principles Points stimulated: Most common points used PC6, ST36, CV12 and LI4 Total length of treatment period: Three cycles with third cycle not evaluated Number of sessions: 4 or 5 depending on chemotherapy protocol per session, total of 8 or 10 Number of points used: Not stated, points could be unilateral or bilateral Insertion depth: Not stated Was <i>deqi</i> reportedly sought: Not stated Duration: 20 min</p>

TABLE 1 Characteristics of studies cont.

Reindl 2006 cont.

Interventions cont.	Method of stimulation: Manual stimulation Control group: Standard antiemetics alone Number allocated to control = 11 Total length of treatment period: Two cycles of chemotherapy
Outcomes	Rescue antiemetic use, episodes of vomiting, nausea and weight loss Rescue antiemetic use obtained from medical chart, reported as mg/day Vomiting episodes recorded as a number per day for each cycle Weight loss was recorded by kg/cycle lost Nausea score using evaluated tool (Memorial Symptom Assessment Scale (MSAS)), concerning sensations of nausea, vomiting and appetite
Selection bias	Participants randomised, method unclear, allocation of treatment was concealed from allocator and both groups were comparable at entry
Attrition bias	No dropouts or withdrawals, low risk of bias
Performance bias	Attempt to confirm patient blinding for sham control? Not applicable Participants not blinded to treatment group due to trial design, unclear if outcome assessors were blinded
Measurement bias	Type of analysis reported: <i>p</i> -value, consistent with both groups

Roscoe 2003

Methods	Design: Parallel – Acupressure plus medication vs medication only Duration: 5 days
Participants	Setting: 17 cancer centres in Rochester USA Mean age (\pm SD or range): Not reported Men/Women (<i>n/n</i>): 55/645 Recruitment method: Not clear Inclusion criteria: Chemotherapy naïve, chemotherapy containing cisplatin or doxorubicin Exclusion criteria: Concurrent radiotherapy or interferon, bowel obstruction, symptomatic brain metastases or cardiac pacemaker
Interventions	Intervention group: Acupressure band Number allocated to acupuncture = 231 (not stated) Points stimulated: PC6 Total length of treatment period: 5 days Number of sessions: 1 Number of points used: 1 Duration: 5 days Method of stimulation: Sea-Bands acupressure bands Control group: No treatment Number allocated to control = 226 Total length of treatment period: 5 days
Outcomes	Patient report diary developed by Burish et al and Carey and Burish measuring nausea and emesis in 4 time points each day. Nausea measured on 7-point scale. QOL measured by FACT-G (Functional Assessment of Cancer Therapy – General), expected efficacy assess on 5-point scale

TABLE 1 Characteristics of studies cont.

Roscoe 2003 cont.

Selection bias	Participants randomised method unclear, unclear if allocator was blinded to group allocation, unclear if both groups were comparable at entry
Attrition bias	Dropouts/withdrawals: Yes reasons not stated, not utilised in analysis
Performance bias	Attempt to confirm patient blinding for sham control? Not applicable Not clear if outcome assessors blinded to group
Measurement bias	Type of analysis reported: Mean and SD, <i>p</i> -value, consistent with both groups

Shen 2000

Methods	Design: Parallel – Acupuncture plus medications vs sham acupuncture plus medications vs medication only Questionnaire at the end of day 5 study period Duration: 14 days
Participants	Setting: 1 inpatient hospital, USA Mean age (±SD or range): 45.5(7.4) electroacupuncture, 43.8(8.0) minimal needling and 48.0(6.8) pharmacotherapy only Men/Women (<i>n/n</i>): 0/104 Recruitment method: Patients approached at clinics Inclusion criteria: Female patients 18–62 years of age, breast cancer, receiving myeloablative chemotherapy and for bone marrow transplantation, life expectancy at least 6 months Exclusion criteria: Patients with brain metastases, life-threatening concurrent non-malignant conditions, active infections, cardiac pacemaker
Interventions	Intervention group: Standard antiemetics and electroacupuncture for total 5 days Number allocated to acupuncture = 37 Style of acupuncture: TCM Point selection: Formula Points stimulated: PC6 and ST36 Total length of treatment period: 5 days Number of sessions: 5 Number of points used: 2 Insertion depth: 1–1.5 body inch Was <i>deqi</i> reportedly sought: Yes Duration: 20 min Method of stimulation: Electroacupuncture – 2–10 Hz, 0.5–0.7 ms pulse width, under a variable DC output with square waveform balanced alternating polarity of less than 26 mA maximal voltage 15 V Control group 1: Standard antiemetics and minimal acupuncture for total 5 days Number allocated to acupuncture = 33 Point selection: Formula Points stimulated: Near LU7 and GB34 Total length of treatment period: 5 days Number of sessions: 5 Number of points used: 2 Insertion depth: Minimal with no stimulation Was <i>deqi</i> reportedly sought: No Duration: 20 Method of stimulation: Electrostimulator was connected but no current was passed to the needles Control group 2: Standard antiemetics Number allocated to acupuncture = 34 Total length of treatment period: 5 days

TABLE 1 Characteristics of studies cont.

Shen 2000 cont.

Outcomes	Emesis, emesis-free days, adverse events and concurrent antiemetic use Emesis measured and recorded daily by nursing staff, emesis as defined as projection of gastric contents not dry retching Proportion of emesis-free days was calculated Patients identified any adverse events they thought were attributed to the study Concurrent antiemetic use was identified from documentation All staff were unaware of patient's group allocation
Selection bias	Patient effectively randomised by concealed envelope system, allocation of group concealed from allocator and both groups were comparable at entry
Attrition bias	No dropouts or withdrawals, low risk of bias
Performance bias	Attempt to confirm patient blinding for sham control? Yes. Participants blinded. Outcome assessors were blinded to treatment group, nursing staff and other staff were blinded to patient allocation.
Measurement bias	Type of analysis reported: Analysed according to the intention-to-treat principle. <i>P</i> -value and confidence interval, consistent both groups

Streitberger 2003

Methods	Design: Parallel – Acupuncture plus medication vs sham acupuncture plus medications Duration: 2 days
Participants	Setting: One hospital Haematology and Oncology unit, Heidelberg, Germany Mean age (\pm SD or range): 54.9 (9.0) acupuncture and 53.3(9.3) placebo group Men/Women (<i>n/n</i>): 41/39 Recruitment method: Not clearly stated Were people with history of acupuncture treatment excluded? Yes, no acupuncture for past 6 months Inclusion criteria: 18 years or older, patients receiving high dose chemotherapy and autologous peripheral blood stem cell transplantations Exclusion criteria: Patients suffering nausea and vomiting past 24 hours, receiving antiemetic drugs 24 hours before chemotherapy, receiving benzodiazepines (exception for one application at night), had received an antiemetic therapy before the start of chemotherapy exception of steroids if part of the chemotherapy treatment or a physiological supplement therapy, eczematous skin changes at acupuncture point PC 6, plaster allergy, opioid therapy starting or coagulopathy
Interventions	Intervention group: Standard antiemetics and acupuncture Number allocated to acupuncture = 41 Style of acupuncture: TCM Point selection: Formula Points stimulated: One Total length of treatment period: 2 days Number of sessions: 2 Number of points used: 1 Insertion depth: Not stated Was <i>deqi</i> reportedly sought: Yes Duration: 20 min Method of stimulation: Manual stimulation, initial <i>deqi</i> sensation obtained then left in situ for 20 min Control group: Standard antiemetics and placebo acupuncture Number allocated to acupuncture = 39

TABLE 1 Characteristics of studies cont.

Streitberger 2003 cont.

Interventions cont.	<p>Style of acupuncture: TCM Point selection: Formula Points stimulated: PC 6 Total length of treatment period: 2 days Number of sessions: 2 Number of points used: 1 Insertion depth: Zero Was <i>deqi</i> reportedly sought: Not sought Duration: 20 min Method of stimulation: Use of Streitberger placebo needle (blunted, telescopic placebo needle)</p>
Outcomes	<p>Vomiting, rescue medications, nausea, side effects of acupuncture, credibility of treatment Vomiting assessed by number of patients who had one episode of vomiting in the evening of each day by use of patients' diary Use of rescue medications assessed on first and second day Nausea assessed by 4-point scale (none = 0, mild = 1, moderate = 2, severe = 3) Episodes of vomiting and retching</p>
Selection bias	Participants randomised but method unclear, allocator was blinded to treatment groups and both groups were comparable at entry
Attrition bias	No dropouts or withdrawals, low risk of bias
Performance bias	Attempt to confirm patient blinding for sham control? Yes assessed with tool developed by Vincent Outcome assessors were blinded to allocation and patients were blinded to treatment group
Measurement bias	Type of analysis reported: <i>p</i> -values (t-test for continuous variable, Fisher's exact test for categorical variables), consistent for both groups

An assessment of the risk of bias

ACUPUNCTURE TRIALS

Five trials were at a low to moderate risk of bias.^{17–20} Only one trial was at a low risk of bias,²⁰ four trials^{14,17–19} were of moderate risk of bias and the remaining two trials^{13,14} were at a high risk of bias (see Table 2).

SELECTION BIAS

Three trials^{14,17,19} reported the method of generating the randomisation sequence to the treatment or control arms, and were assessed as low risk. Two trials^{14,17} used a computer program and one trial¹⁹ used a table to generate the randomisation. Four trials^{12,13,18,20} didn't state how the randomisation sequence was generated and were assessed as risk unclear. Two trials^{12,13} were

published prior to the CONSORT Statement outlining the reporting of RCTs.

Five trials^{14,17–20} identified the randomisation allocation as concealed from the allocator ensuring a low risk of bias. Three trials^{14,18,20} concealed allocation by phone, while two trials^{17,19} used sealed opaque envelopes. Again the two older trials^{12,13} did not identify if this occurred.

Three trials^{12,18,20} reported the control and treatment groups were comparable at entry and were assessed as low risk, while one did not report patient characteristics and it was unclear if there was bias.¹³ Two trials^{14,17} used crossover trials and the risk of bias was assessed as low. One trial¹⁹ was assessed at a low risk of bias as there was no difference in groups at entry in relation to ethnicity, emesis with prior chemotherapy and alcohol use.

ATTRITION BIAS

Four trials^{14,18-20} had no withdrawals and were assessed at a low risk of bias. Two early trials^{12,13} did not detail reasons for withdrawal and were assessed as having an unclear risk of bias. The remaining trial¹⁷ reported a 25% loss due to withdrawals, but did not include them in the analysis, and was assessed at a low to moderate risk of attrition bias.

PERFORMANCE BIAS

Four trials addressed performance bias in relation to blinding of outcome assessors.^{13,17,19,20} Two trials^{12,18} did not conceal the allocation from the assessors and were identified as moderate to high risk of bias. The remaining trial¹⁴ was unclear.

MEASUREMENT BIAS

Six trials^{13,14,17-20} used the same outcome measures for both groups and utilised reliable measures, ensuring a low risk of bias. The remaining trial¹² did not clearly state how the outcome measurements were assessed.

ACUPRESSURE TRIALS

Five trials^{17,26-29} were assessed at a low risk of bias and the remaining trial³⁰ was assessed at a high risk of bias.

SELECTION BIAS

One trial¹⁷ was assessed as low risk of bias because a randomisation sequence generation was stated. Another trial²⁹ using computer generation used simple random selection and was of low risk of

bias. The remaining trials^{26-28,30} were categorised as unclear risk of bias.

Four trials²⁶⁻²⁹ reported that control and treatment groups were comparable at entry and were assessed as low risk. One trial¹⁷ used a crossover design trial and was assessed at a low risk of bias. The other trial³⁰ was assessed as unclear.

ATTRITION BIAS

Only one trial²⁶ reported withdrawals and was assessed at a low risk of bias. The remaining trials^{17,27-30} identified the withdrawals but did not include withdrawals in the analysis and were assessed at a low to moderate risk of bias. Levels of withdrawal were: Dibble et al²⁶ 8%, Jones et al²⁸ 14%, Melchart et al¹⁷ 25%, Molassiotis et al²⁹ 34% and Roscoe et al³⁰ 34%.

PERFORMANCE BIAS

Three trials^{17,27,28} reported that outcome assessment was blind to group allocation. Three trials^{26,29,30} were assessed as unclear.

Two trials^{17,29} ensured the allocation of treatment was concealed from the allocator with staff collecting the information blind to group allocation, and were assessed at a low risk of bias. The remaining trials^{26-28,30} were assessed as unclear.

MEASUREMENT BIAS

All six trials^{17,26-30} measured outcomes the same way for both groups and utilised reliable measures and were assessed at low risk of bias.

TABLE 2 Assessment of bias

Criteria	Acupuncture articles						
	Dundee 1987	Dundee 1988	Shen 2000	Streitberger 2003	Melchart 2006	Reindl 2006	Gottschling 2008
Assignment to groups truly random	Unclear	Unclear	Yes	Yes	Yes	Yes	Yes
Were participants blinded to treatment allocation	Yes	No	No	Yes	Yes	No	No
Was allocation to treatment groups concealed from the allocator	Unclear	Unclear	Yes	Yes	Yes	Yes	Yes
Were the outcomes of people who withdrew described and included in the analysis	No	Unclear	Yes	Yes	No	Yes	Yes
Were those assessing the outcomes blind to the treatment allocation	No	Yes	Yes	Yes	Yes	No	Unclear

TABLE 2 Assessment of bias cont.

Criteria	Acupuncture articles cont.						
	Dundee 1987	Dundee 1988	Shen 2000	Streitberger 2003	Melchart 2006	Reindl 2006	Gottschling 2008
Were control and treatment groups comparable at entry	Unclear	Unclear	No	Yes	Unclear	Yes	Unclear
Were groups treated identically other than for the named interventions	Unclear	Unclear	Yes	Yes	Yes	Yes	Yes
Were outcomes measured in the same way for all groups	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were outcomes measured in a reliable way	Yes	Unclear	Yes	Yes	Yes	Yes	Yes
Was appropriate statistical analysis used	Yes	Unclear	Yes	Yes	Yes	Yes	Yes
Score out of 10	4	2	8	10	8	8	7

TABLE 2 Assessment of bias cont.

Criteria	Acupressure articles					
	Dibble 2000	Roscoe 2003	Melchart 2006	Dibble 2007	Molassiotis 2007	Jones 2008
Assignment to groups truly random	Yes	Yes	Yes	Yes	Yes	Yes
Were participants blinded to treatment allocation	No	Unclear	Yes	Yes	No	Yes
Was allocation to treatment groups concealed from the allocator	Unclear	Unclear	Yes	Unclear	Yes	Unclear
Were the outcomes of people who withdrew described and included in the analysis	Yes	No	No	No	No	No
Were those assessing the outcomes blind to the treatment allocation	Unclear	Unclear	Yes	Yes	Unclear	Yes
Were control and treatment groups comparable at entry	Yes	Unclear	Unclear	Yes	Yes	Yes
Were groups treated identically other than for the named interventions	Yes	Yes	Yes	Yes	Yes	Yes
Were outcomes measured in the same way for all groups	Yes	Yes	Yes	Yes	Yes	Yes

TABLE 2 Assessment of bias cont.

Criteria	Acupressure articles cont.					
	Dibble 2000	Roscoe 2003	Melchart 2006	Dibble 2007	Molassiotis 2007	Jones 2008
Were outcomes measured in a reliable way	Yes	Yes	Yes	Yes	Yes	Yes
Was appropriate statistical analysis used	Yes	Unclear	Yes	Yes	Yes	Unclear
Score out of 10	7	4	8	8	7	7

Meta-analysis

(SEE APPENDIX 1)

1. ACUPUNCTURE PLUS MEDICATION VS MEDICATION ONLY

1.1 FREQUENCY OF VOMITING

The frequency of vomits was reported in two trials.^{14,19} A reduction in vomiting frequency was shown in the acupuncture plus medication group, mean difference (MD -7.40, 95% CI -9.07 to -5.72, 94 participants).

1.2 DOSE OF RESCUE MEDICATION

The dose of rescue medication was reported in one trial¹⁴ and showed a reduction in the dose of rescue medication in the acupuncture plus medication group (MD -5.52, 95% CI -7.45 to -3.58, 23 participants).

2. ACUPUNCTURE PLUS MEDICATIONS VS SHAM ACUPUNCTURE PLUS MEDICATIONS

2.1 FREQUENCY OF VOMITING

The frequency of vomits was reported in three trials.^{13,17,20} and showed no difference between groups (MD 0.70, 95% CI 0.38 to 1.29, 138 participants).

2.2 FREQUENCY OF NAUSEA

The frequency of nausea was reported in two trials^{17,20} and showed no difference between groups (MD 1.01, 95% CI 0.67 to 1.50, 128 participants).

2.3 DOSE OF RESCUE MEDICATION

The dose of rescue medication was reported in two trials.^{17,20} There was no difference between groups (MD 1.03, 95% CI 0.64 to 1.67, 128 participants).

2.4 HELPFULNESS OF ACUPUNCTURE

The helpfulness of acupuncture was reported in one trial²⁰ with 80 participants. There was no difference between groups (MD 1.11, 95% CI 0.71 to 1.74, 80 participants).

3. ACUPRESSURE PLUS MEDICATION VS MEDICATION ONLY

3.1 FREQUENCY OF VOMITING

Frequency of vomiting was reported in one trial.²⁹ No difference was found between groups (MD 0.13, 95% CI -1.46 to 1.20, 94 participants).

3.2 FREQUENCY OF NAUSEA

Frequency of nausea was reported in three trials.^{26,29,30} There was a decrease in the frequency of nausea in the acupressure plus medication group. (MD -0.32, 95% CI -0.59 to 0.06, 510 participants).

4. ACUPRESSURE PLUS MEDICATION VS SHAM ACUPRESSURE PLUS MEDICATION

4.1 FREQUENCY OF VOMITING

Frequency of vomits was reported in one trial.¹⁷ There was no difference between groups (MD 1.24, 95% CI 0.34 to 4.43, 48 participants).

4.2 FREQUENCY OF NAUSEA

Frequency of nausea was reported in one trial.¹⁷ There was no difference between groups (MD -0.10, 95% CI -5.52 to 5.02, 48 participants).

4.3 USE OF RESCUE MEDICATION

The dose of rescue medication was reported in one trial.¹⁷ There was no difference between groups (MD 1.03, 95% CI 0.64 to 1.67, 48 participants).

Discussion

Twelve trials were included in the review: seven acupuncture trials and six acupressure trials. The trials included a total of 1381 participants, 1133 in acupressure studies and 275 in acupuncture studies. One trial¹⁷ was included in both acupuncture and acupressure analysis.

The meta-analysis showed a reduction in the frequency of acute chemotherapy-induced nausea in the acupressure plus

medication group compared with the medication only group (MD -0.10, 95% CI 0.34 to 4.43). In addition, there was a reduction in frequency of vomiting (MD -7.40, 95% CI -9.07 to -3.58), and a reduction in the dose of rescue medication (MD -5.52, 95% CI -7.45 to -3.58) in the acupuncture plus medication group versus medication only.

The limitations of the primary studies relate to whether an adequate dose of acupuncture or acupressure was administered. It has been suggested that a minimum of six treatments is needed to constitute adequate treatment.⁴⁴ Five of seven of the acupuncture trials used a formula for point selection with just one or two points. Two of the acupuncture trials used a flexible point selection process, with TCM practitioners selecting points based on TCM principles rather than acupuncture stimulation of a particular point or set of points. The use of sham controls within acupuncture remains controversial, as some studies indicate physiological activity with many of the techniques of sham acupuncture.⁴⁵⁻⁴⁷ Ethical concerns have also been raised about the use of a sham control in the evaluations of acupuncture in cancer care.^{48,49}

The most recent acupuncture trials are beginning to reflect modern practice by the use of more than one or two points and individualised treatments rather than a formula of points. Research is moving away from investigating the effects of a specific acupuncture point to investigating acupuncture as a 'whole person' intervention, including the specific and non-specific effects of an acupuncture treatment and the acupuncturist.⁵⁰⁻⁵² In these instances, researchers reported the most common points utilised in the intervention. This may help guide further research and guide practitioners in their clinical practice but the heterogeneity will make it difficult to compare studies.

The quality of the trials in relation to risk of bias could and should be improved. Four of the seven acupuncture trials^{14,17-19} had a low to moderate risk of bias; only one²⁰ had a low risk of bias. Five of the six^{17,26-29} acupressure trials had a low to moderate risk of bias. The bias in the other trial was assessed as moderate to high as it did not clearly state many of the criteria. There was slight improvement in addressing bias in the acupuncture and acupressure trials following the Cochrane review.

Overall the methodology of recently published acupuncture studies has not greatly improved from that in the trials identified in the Cochrane review.²¹ In addition, the reporting of trials has improved only slightly despite the publication of the Standards for Reporting Interventions in Controlled Trials of Acupuncture (STRICTA)⁵³ guidelines. With improved reporting, a more accurate assessment of the risk of bias can be obtained. The studies remain small, with most being pilot

studies, which is a common occurrence and a major weakness. There has been a tendency to utilise crossover designs for the most recent trials. The issue raised by this design is that the washout period for acupuncture or acupressure treatment has not been clearly identified through research. Overall, few studies remain at a low risk of bias.

The one other systematic review of acupuncture in the literature was published by Ezzo et al.²¹ This review included 11 trials, and included one other form of acupoint stimulation: non-invasive electrostimulation, which was excluded from this review. This review found some benefit with respect to acute nausea for acupressure (MD -0.32, 95% CI -0.59 to 0.06, 510 participants) and there was evidence of a decrease in frequency of vomiting (MD -7.40, 95% CI -9.07 to -5.72, 94 participants) and dosage of rescue medication (MD -5.52, 95% CI -7.45 to -3.58, 23 participants) in those receiving acupuncture.

Characteristics of the participants in these trials varied. Some of the recent acupuncture trials included children with cancer. This patient group is not often seen by acupuncture practitioners, but does have relevance to the growing number of practitioners who work in integrative oncology clinics. Some trials included patients with more than one cancer type. This mixed patient group is more representative of the type of patient acupuncture practitioners would treat in their clinics.

The review showed persistent weaknesses in the design and implementation of acupuncture trials. The main flaw is small sample sizes, resulting in underpowered studies from which no definitive recommendation can be made. Another issue is the lack of a consensus as to what is the most appropriate control.⁵⁴

Implications for research

Further research trials should use appropriate sample sizes and adequate power. Future researchers need to ensure that when designing trials, outcome measures are both clinically relevant and patient-centred.⁵⁷⁻⁵⁹ Trials should also allow the treating acupuncturist the flexibility to decide the appropriate acupuncture treatment to ensure the trials have clinical relevance and help direct practice.^{50,51} The adoption of broad trial inclusion and exclusion criteria will also ensure the findings of the study are more generalisable and representative of the usual care situation.^{52,60} This will help the research reflect more closely what occurs in clinical practice.

Conflict of interest

No known conflict of interest.

Clinical Commentary

There is some evidence to support the use of the two major points (PC6 *Neiguan* and ST36 *Zusanli*) for acute CINV, although less evidence for delayed CINV. These points are commonly used in clinical practice, especially for treating nausea and vomiting arising from other causes, including post-operative and pregnancy-induced nausea and vomiting.^{55,56} There is less evidence for the use of other points such as CV12 *Zhongwan* and LI4 *Hegu*, which can not be recommended for use until more high-quality research is conducted. Acupressure on PC6 *Neiguan* and ST36 *Zusanli* has shown some benefit for acute chemotherapy-induced nausea. Although the research is not conclusive, the intervention is inexpensive, low-risk and easy for patients to learn and perform, and could be included for patients experiencing CINV.⁴²

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APPENDIX 1

1: ACUPUNCTURE + MEDICATION VS MEDICATION ONLY

1.1 Frequency of Vomiting

Study or Subgroup	Experimental			Control			Weight %	Mean difference IV, Fixed, 95% CI	Mean difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total			
Gottschling 2008	3.83	2.41	12	11.36	2.56	11	67.5	-7.53 [-9.57, -5.49]	
Shen 2000	6.29	4.16	37	13.41	7.77	34	32.5	-7.12 [-10.06, -4.18]	
Total (95% CI)			49			45	100.00	-7.40 [-9.07, -5.72]	

Heterogeneity: $\text{Chi}^2 = 0.05$, $\text{df} = 1$ ($P = 0.82$); $I^2 = 0\%$
 Test for overall effect: $Z = 8.66$ ($P < 0.00001$)

1.2 Dose of Rescue Medications

Study or Subgroup	Experimental			Control			Weight %	Std. Mean difference IV, Fixed, 95% CI	Std. Mean difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total			
Gottschling 2008	13.47	6.07	12	48.95	6.34	11	100.00	-5.52 [-7.45, -3.58]	
Total (95% CI)			12			11	100.00	-5.52 [-7.45, -3.58]	

Heterogeneity: Not applicable
 Test for overall effect: $Z = 5.59$ ($P < 0.00001$)

2: ACUPUNCTURE PLUS MEDICATIONS VS SHAM PLUS MEDICATIONS

2.1 Frequency of Vomiting

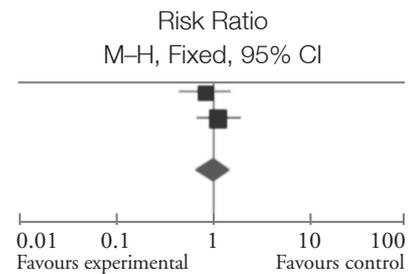
Study or Subgroup	Acupuncture plus Meds		Control		Weight %	Risk Ratio M-H, Fixed, 95%	Risk Ratio M-H, Fixed, 95% CI
	Events	Total	Events	Total			
Dundee 1987	2	7	3	3	26.2	0.36 [0.12, 1.06]	
Melchart 2006	7	24	6	24	33.6	1.17 [0.46, 2.96]	
Streitberger 2003	4	41	7	39	40.2	0.54 [0.17, 1.71]	
Total (95% CI)		72		66	100.00	0.70 [0.38, 1.29]	
Total events	13		16				

Heterogeneity: $\text{Chi}^2 = 2.81$, $\text{df} = 2$ ($P = 0.25$); $I^2 = 29\%$
 Test for overall effect: $Z = 1.13$ ($P = 0.26$)

2: ACUPUNCTURE PLUS MEDICATIONS VS SHAM PLUS MEDICATIONS CONT.

2.2 Frequency of Nausea

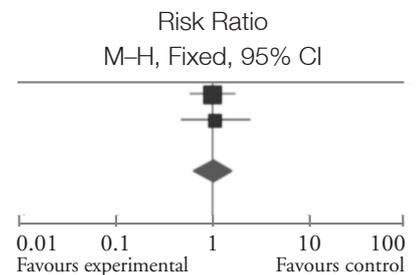
Study or Subgroup	Acupuncture plus Meds		Sham plus meds		Weight %	Risk Ratio M-H, Fixed, 95%
	Events	Total	Events	Total		
Melchart 2006	10	24	12	24	43.8	0.83 [0.45, 1.55]
Streitberger 2003	18	41	15	39	56.2	1.14 [0.67, 1.93]
Total (95% CI)	65	63	100.00	1.01	[0.67, 1.50]	
Total events	28		27			



Heterogeneity: $\text{Chi}^2 = 0.58$, $\text{df} = 1$ ($P = 0.45$); $I^2 = 0\%$
 Test for overall effect: $Z = 0.03$ ($P = 0.98$)

2.3 Use of Rescue Medications

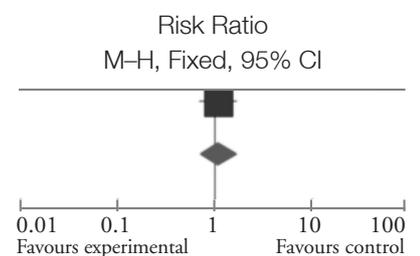
Study or Subgroup	Experimental		Control		Weight %	Risk Ratio M-H, Fixed, 95%
	Events	Total	Events	Total		
Melchart 2006	12	24	12	24	59.4	1.00 [0.57, 1.76]
Streitberger 2003	9	41	8	39	40.6	1.07 [0.46, 2.49]
Total (95% CI)	65	63	100.00	1.03	[0.64, 1.67]	
Total events	21		20			



Heterogeneity: $\text{Chi}^2 = 0.02$, $\text{df} = 1$ ($P = 0.89$); $I^2 = 0\%$
 Test for overall effect: $Z = 0.11$ ($P = 0.91$)

2.4 Helpfulness of Acupuncture

Study or Subgroup	Acupuncture plus Meds		Sham plus Meds		Weight %	Risk Ratio M-H, Fixed, 95%
	Events	Total	Events	Total		
Streitberger 2003	21	41	18	39	100.00	1.11 [0.71, 1.74]
Total (95% CI)	41	39	100.00	1.11	[0.71, 1.74]	
Total events	21		18			

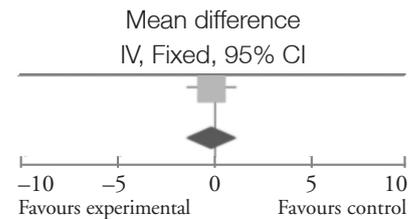


Heterogeneity: Not applicable
 Test for overall effect: $Z = 0.45$ ($P = 0.65$)

3: ACUPRESSURE PLUS MEDICATION VS MEDICATION ONLY

3.1 Frequency of Vomiting

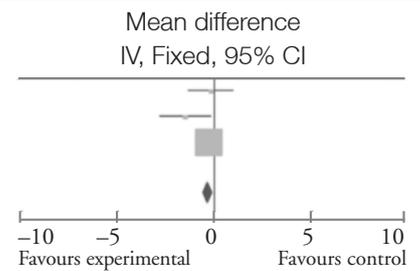
Study or Subgroup	Experimental			Control			Weight %	Mean difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Molassiotis 2006	0.53	2.1	17	0.66	1.94	19	100.00	-0.13 [-1.46, -1.20]
Total (95% CI)			17			19	100.00	-0.13 [-1.46, -1.20]



Heterogeneity: Not applicable
Test for overall effect: Z = 0.19 (P = 0.85)

3.2 Frequency of Nausea

Study or Subgroup	Experimental			Control			Weight %	Mean difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total		
Dibble 2000	2.83	1.6	8	3	0.58	9	5.1	-0.17 [-1.34, -1.00]
Molassiotis 2006	0.66	1.6	17	2.16	2.4	19	4.0	-1.50 [-2.82, -0.18]
Roscoe 2003	1.99	1.47	231	2.27	1.55	226	90.9	-0.28 [-0.56, -0.00]
Total (95% CI)			256			254	100.00	-0.32 [-0.59, -0.06]

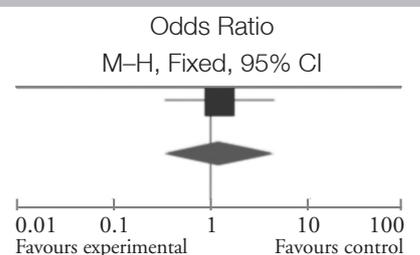


Heterogeneity: Chi² = 3.21, df = 2 (P = 0.20); I² = 38%
Test for overall effect: Z = 2.40 (P = 0.02)

4: ACUPRESSURE PLUS MEDICATION VS SHAM ACUPRESSURE PLUS MEDICATION

4.1 Frequency of Vomiting

Study or Subgroup	Experimental		Control		Weight %	Odds Ratio M-H, Fixed, 95% CI
	Events	Total	Events	Total		
Melchart 2006	7	24	6	24	100.00	1.24 [0.34, 4.43]
Total (95% CI)		24		24	100.00	1.24 [0.34, 4.43]
Total events	7		6			



Heterogeneity: Not applicable
Test for overall effect: Z = 0.32 (P = 0.75)

4: ACUPRESSURE PLUS MEDICATION VS SHAM ACUPRESSURE PLUS MEDICATION CONT.

4.2 Frequency of Nausea

Study or Subgroup	Experimental			Control			Weight %	Mean difference IV, Fixed, 95% CI	Mean difference IV, Fixed, 95% CI
	Mean	SD	Total	Mean	SD	Total			
Melchart 2006	6.2	9	24	6.3	9.1	24	100.00	-0.10 [-5.22, 5.02]	
Total (95% CI)			24			24	100.00	-0.10 [-5.22, 5.02]	

Heterogeneity: Not applicable
Test for overall effect: Z = 0.04 (P = 0.97)

4.3 Use of Rescue Medication

Study or Subgroup	Experimental		Control		Weight %	Odds Ratio M-H, Fixed, 95% CI	Odds Ratio M-H, Fixed, 95% CI
	Events	Total	Events	Total			
Melchart 2006	12	24	12	24	100.00	1.00 [0.32, 3.10]	
Total (95% CI)		24		24	100.00	1.00 [0.32, 3.10]	
Total events	12		12				

Heterogeneity: Not applicable
Test for overall effect: Z = 0.00 (P = 1.00)

Chinese Medicine Today: Issues for Research, Education and Practice in the West

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ABSTRACT

This article is a commentary on the modernisation of Chinese medicine and some of the issues concerning its transmission and practice in contemporary Western settings. Over the last one hundred years, complex socio-historical factors have altered Chinese medicine's traditional concepts and methods and generated misunderstandings for Western students and professionals.

In the health care professions today, research and education guide best clinical practice. However, the two main branches of research into Chinese medicine – bioscientific and socio-historical – rarely assist Chinese medicine professionals with issues of clinical practice. Although historical, anthropological and textual researchers reveal sophisticated discourses built around a distinctive approach to knowing the world and the body-person, they do not normally discuss the implications of their work for clinical practice. Bioscientific researchers argue that it must be possible to utilise and test Chinese medicine from within a biomedical framework. Yet the methodological constraints required by scientific research alter Chinese medicine's traditional methods, standardise treatment protocols and remove its flexibility and responsiveness to clinical variations.

Today, bioscientific methods and evidence act as the organising structures for medical knowledge and as a mechanism to exclude some types of knowledge. This paper argues that Chinese medicine's unique diagnostic characteristics and therapeutic methods are worth investigating on their own terms. It applies a synthetic approach to multidisciplinary sources outside the traditional Chinese medicine (TCM) orthodoxy, which tend to contest the simplified and biomedicalised version of Chinese medicine generally available in English-speaking countries today. Multidisciplinary researchers have shown how premodern Chinese representations and modern scientific representations of the medical body have been constructed according to their respective methods of investigating reality. Their research can assist English speakers to approach Chinese medicine's traditional perspectives, help demonstrate the relevance of those perspectives for contemporary clinical practice, and restore the traditional connectedness between Chinese medicine's concepts and methods.

KEYWORDS biomedicine, Chinese medicine, education, healthcare practice, integration, research.

Introduction

The depth of the Chinese medicine tradition in China and East Asia includes a kind of maturity that is lacking in the West. In English-speaking Western countries, Chinese medicine has only a few decades of marginalised practice, a very small senior practitioner population, difficult access to source texts and a relatively slight hold on the public mind. Complex socio-historical factors and forces of the last one hundred years have changed Chinese medicine locally and worldwide; they have altered Chinese medicine's traditional methods and generated misunderstandings for today's students and clinicians.¹⁻⁵

Misunderstandings and misinterpretations are especially a problem for English-speaking Westerners who wish to practise traditional Chinese medicine and strive to gain an understanding of the discipline that corresponds to its established frameworks and methods. The most significant factor of all is the global dominance of bioscientific medicine in medical education and research, and in related political and professional institutions and healthcare delivery systems. This paper's overview of some of the issues for the transmission of Chinese medicine into the contemporary world and Western languages argues that these changes present a significant challenge for the preservation of Chinese medicine as a distinct medical discipline.^{6,7}

The transmission of Chinese medicine historically, and to countries outside China, has largely been possible due to the textual legacy that has recorded its conceptual and therapeutic developments. Today, Chinese- and Western-generated TCM textbooks are the main route of Chinese medicine transmission globally. During the middle of the twentieth century, the architects of TCM consolidated Chinese medicine's diverse and disparate currents and systematised Chinese medical theory-practice. TCM textbooks were created to present structured frameworks for the learning and application of traditional medical theories. The new textbooks revised premodern conceptual models and treatment methods to suit the contemporary reader and today's bioscientific medical culture.⁸ These developments have raised questions concerning the modernisation of Chinese medicine and the relevance of its traditional methods, and the gulf that has developed between Chinese medicine's 'basic theory' and its clinical applications.⁹⁻¹¹

When the Chinese decided to modernise and scientise their national medicine, their revisions included a number of projects aimed at formulating theoretical principles and standardising therapeutic content.^{1,2,9} For instance, pattern identification (辨证 *bian zheng*) was redefined to encompass

conflicting premodern diagnostic methods. The great success of the new pattern identification model was its capacity to also incorporate biomedical disease categories into TCM diagnostic analysis.¹² To facilitate the newly developed centralised teaching curriculum, disease (病 *bing*) and pattern (证 *zheng*) analysis had to be standardised, as did therapeutic principles, medicinal actions, acupoint features, locations, methods and a raft of related terms.

On the positive side, standardising and scientising Chinese medicine content and categories created disease classification structures and treatment strategies with clear lines of separation. Standardised terms and diagnostic criteria gave the discipline a firm foundation for learning and promised to improve the inter-examiner reliability of Chinese medicine practice and research. More recently, the moves to standardise the English translation of Chinese medical terminology have alerted many Westerners to the breadth and complexity of its technical language.¹³⁻¹⁵

Chinese medical terms are used in different ways depending on the historical context, so standardising the translation of terms is not without problems. While source-based translations attempt to preserve historical contexts and connections, bioscientific translations endeavour to align premodern concepts with contemporary scientific understanding.¹⁶⁻¹⁹ Standardised biomedical translations of Chinese terms in particular decouple contextual meanings from clinical methods, erase thousands of years of diversity and remove some of the tradition's inbuilt flexibility.²⁰ Moreover, when guided by a bioscientific agenda the translation of traditional terms leads to a sense that TCM is essentially similar to bioscientific medicine.²¹

The biomedicalisation of terms is one example of how modernisation has affected the transmission of Chinese medicine as a distinct field of medicine. Medical anthropologists have explored the vulnerability of traditional medical systems to the political hegemony of biomedicine. For example, the global dominance and momentum of scientific medicine means that the biomedicine-and-state 'body politic' defines efficacy and how to measure it. Consequently, the integration of Chinese medicine and biomedicine is in reality a one-sided process that biomedicalises healthcare.^{21,22}

Advocates of scientisation argue that it must be possible to utilise and test Chinese medicine from within a biomedical framework, and if scientisation means removing Chinese medicine's traditional principles and concepts then surely it could be made more efficient and more effective in the process. For contemporary healthcare professionals and researchers this is a persuasive option. To understand why, we only have to consider Chinese medicine's conservative historical legacy, its

complex and disparate currents, its apparent neglect of physical structures and mechanisms, its incompatible assumptions and methodological dissonance with biomedicine and our problems with access to premodern sources.²³

Biosciences and social sciences

Generally speaking, contemporary research into Chinese medicine follows one of two main directions – bioscientific or socio–historical – and rarely does either direction assist Chinese medicine professionals with issues of clinical practice. On one side, scholars and researchers in the humanities use textual and qualitative methods and are reluctant to engage directly with the practice of science, technology and medicine. On the other side, bioscientific research methods are reductive and objective, and scientists are unwilling to engage with philosophy, scholarship and research in the humanities and social sciences.^{24,25} The model for the discipline of medical history separated scholarship from practice in the nineteenth century. Since then, historical, anthropological and textual researchers of China's medical traditions normally avoid discussing the implications of their work for clinical practice.

Historically, we know that Chinese medical methods have been tested and consensus reached by systematic observation and repeatable results over two thousand years. Longitudinal reports of repeatability and clinical success, however, are not regarded as high-level evidence. Today, a set of research protocols called 'evidence-based medicine' (EBM) overrides all other criteria for therapeutic safety and efficacy and have become the determiner of best practice.^{26–28} Bioscientific and evidence-based research methodologies investigate complex phenomena in a systematic way by isolating and testing their more simple parts or factors.

The methodological constraints required by scientific research ignore Chinese medicine's diagnostic reasoning and basic principles of practice: they alter traditional methods, standardise treatment protocols (to reduce variables for example) and remove Chinese medicine's flexibility and responsiveness to clinical changes and variations.^{29–31} Too often, a technique, substance or bodily response has been tested by removing it from the unique clinical setting, including the frameworks, rationale and relationships that contribute to the particular clinical instance or encounter. Yet, Chinese medicine's traditional practices are all about these features.

Even so, the general acceptance of the scientific approach today means that its methods and the knowledge produced

are thought to be reliable, objective and widely applicable.³² Consequently, scientific medicine is not open to non-scientific views, and 'to call a medical system "non-scientific" is virtually to damn it as arbitrary, irrational, unsystematic, misguided, ineffective and probably a danger to health'.³³ This perception seems to have developed during the eighteenth and nineteenth centuries with the beginnings of the new sciences, including scientific medicine.

The work of philosopher Michel Foucault (1926–1984) established some relevant facts about the scientific perspective of the body.³⁴ The scientific perspective first appeared in Europe's Age of Enlightenment, when rationality dispelled superstition and dogma, science gathered observable, measurable evidence and medical science employed objective methods to investigate the physical body. Influential thinkers such as philosopher Karl Marx (1818–1883) and sociologist Emile Durkheim (1858–1917) argued that science set people free from superstition and religion and removed the culturally contingent elements from ideas.³⁵

What was 'new' about the new sciences were the impersonal, systematic and rational experimental models of scientific positivism and determinism that promised authoritative and objective findings. In contrast, even today objectivity is not a requirement of TCM diagnostic methods. In fact, ordinary and subjective experiences – the client's bodily experiences and sensory perceptions, and the clinician's observations and interpretations – are thought to be sufficient to understand the patho–mechanisms and patterns of illness. Nevertheless, despite the acknowledged socio–political origins of science and scientists, the knowledge and evidence produced by their methods are accepted as untainted by subjective representations.

The new scientific methods of the nineteenth century were premised on 'scientific essentialism' – a belief that direct observation can avoid the unreliable and interpretive problems of representation. Philosophical developments of the last century, however, refute scientific essentialism: postmodernism has shown that everything we know is known through representation, and Thomas Kuhn (1922–1996) has demonstrated that there is no clear distinction between observation and theory. Kuhn found that, far from being unassailable, the sciences are historically specific, they do not have tight deductive structures or a methodological unity, and their concepts are not especially precise.³⁵

Chinese medicine's unique diagnostic characteristics and therapeutic methods entail certain procedural issues that ought to guide research design and the methodologies applied to investigate its mechanisms and efficacy. Bioscientific research designs that test single acupoints or isolated active herbal constituents on specific diseases, for instance, ignore Chinese

medicine's widely adopted methods of 'treatment according to pattern differentiation' and its 'multi-component prescriptions'. Some researchers have been designing clinical research that does address Chinese medicine's diagnostic and therapeutic methods as well as abiding by scientific standards. Appropriate research design and procedures support the principles of research integrity and merit; in addition, they help ensure the validity of research outcomes and their relevance for clinical practice.^{28,36-38}

Even though we know scientific observations are imbued with theoretical interpretations, biomedical research methods still largely adhere to the positivist view that representation can be vanquished and reality discovered by scientific methods. Today's bioscientific methods and evidence act as the overriding structures that organise medical knowledge and exclude some other types of knowledge.^{39,40} Whilst anyone conversant with twentieth century philosophies of science might question scientific objectivity and its assessment of medical practices, the precision of biomedical technologies continues to maintain a strong hold on the public mind.

The medical body

Just like early Chinese representations of the medical body, modern European representations were constructed according to favoured notions of reality and methods of knowing.^{35,41-43} In other words, as the object of medical research the body is also the effect or outcome of the research perspective and methods. The ways in which premodern Chinese medicine and contemporary biomedicine each view the body distil the differences that remain strangely problematic for the smooth integration of biomedical and Chinese medical practices. These differences persist because, although the physical body itself is a material, non-discursive entity, our representations of it are always discursive.³⁵ Scholarship explaining historical and medical perspectives of the body attests to this.⁴⁴⁻⁴⁸

The differences in perspectives also explain why social scientists and historians of Chinese medicine and culture often contest contemporary interpretations of early Chinese texts and concepts. Not only have they shown that the body is a socio-political construct rather than an objective, quantifiable entity, their investigations of Chinese medicine's conceptual frameworks reveal sophisticated discourses built around a distinctive approach to knowing the world and the body-person.⁴⁹⁻⁵⁷ An example is Nathan Sivin's collaboration with Geoffrey Lloyd.⁵⁸ Their study of the social, institutional and intellectual frameworks of ancient Greek and Chinese science and medicine challenges our assumptions regarding the universal biomedical reality of the body.

The non-TCM literature does challenge us to investigate Chinese medical language and history (for example) as integral to our professional education and evolution. Chinese medicine's premodern perspectives of the body are the basis of its therapeutic intelligibility, efficacy and relevance.^{48,59} Only in recent years has the West been able to access more philologically accurate translations of some premodern texts,^{55,56,60-61} and publications such as these have revealed the generally simplified presentation of the discipline in the English language literature.

Historically, Chinese medicine's philosophy-practice nexus reflects the connection between the person and the cosmos that can be found throughout the Chinese medical classics. Multidisciplinary sources from within the field of Chinese medicine and adjacent disciplines can help English-speaking Westerners contextualise premodern concepts and their recent revisions to better understand traditional perspectives of the medical body. Today, a synthetic approach to research and education reflects the premodern perspectives and methods that Chinese medicine applied to its investigations of the body in health and illness, and demonstrates their relevance for contemporary clinical practice.

Although a synthetic approach ignores the currently accepted convention that separates academic scholarship and professional practice, it offers three important advantages for Chinese medicine. First, familiarity with the historical and cultural contexts of premodern medical discourses can assist Westerners without Chinese language knowledge to approach Chinese medicine's traditional perspectives.⁶² Second, the multidisciplinary investigation of Chinese medical texts, concepts and practices that incorporates their historical, cultural and philosophical influences contests the simplified and biomedicalised version of Chinese medicine generally available in English-speaking countries today.¹² Finally, the synthesis of scholarship and practice acknowledges and can help restore the traditional connectedness between Chinese medicine's concepts and methods – its philosophy-practice nexus.⁶³

Concluding remarks

The changes of the last one hundred years affect the future of Chinese medicine and its transmission in the West. Clearly it is possible to better inform the English-speaking profession, and by all accounts the correct and deep understanding of the Chinese medical body is a key aspect of the clinical encounter and linked to the efficacy of its therapeutic interventions.^{9,64} On that basis alone, traditional concepts and practices are worth investigating on their own terms and without using biomedicine as the scientific standard and interpretive filter.

To whatever extent the profession can achieve and convey a deeper understanding of Chinese medicine's traditional conceptions and its distinctive philosophy–practice nexus, Western English-speaking educational, practice and professional outcomes will benefit. Greater precision with technical terms and conceptual models will assist communication and exchange between Chinese medicine professionals internationally. Researchers will be better able to take Chinese medical conceptions into account, to design appropriate methodologies and to engage in scientific research from a position of scholarly rigour and clinical relevance.

Historical and philological research has shown how Chinese medicine's empirical methods and reasoning enabled growth and flexibility over time, and today, it may be that Chinese medicine's proven ability to absorb ideas and influences will benefit its therapeutic competence in the contemporary world. Multidisciplinary sources that help us to access premodern perspectives of the medical body can extend and deepen our reading of TCM textbooks. The Chinese medical literature in English, when it includes fields of research outside the TCM orthodoxy, highlights areas of theoretical difficulty and can provide insight into their resolution or displacement. As one cultivates a more traditional Chinese 'medical gaze', the coherence between Chinese medicine's conceptual models, the clinical process and the logic guiding therapeutic decisions becomes more evident and pragmatic.

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Clinical Commentary

English-speaking Westerners who wish to practise traditional Chinese medicine strive to understand its established frameworks and methods. However, since the 1960s and 1970s TCM textbooks have revised premodern concepts and treatment methods to facilitate the integration of Chinese medicine with Western biomedicine. Today's bioscientific methods and evidence are the overriding structures that organise medical knowledge and exclude some types of knowledge. Their methodological constraints alter Chinese medicine's traditional methods and remove its flexibility and responsiveness to individual presentations and clinical changes. In this way, the 'integration' of Chinese medicine with biomedicine has become a one-sided process that biomedicalises clinical education and practice.

All medical diagnoses rely on the practitioner's understanding of the medical body. Social scientists and historians of Chinese medicine have described sophisticated discourses built around its distinctive approach to the body–person. They have shown how Chinese medicine's traditional perspectives are the basis of its internal coherence, and how the correct understanding of them is linked to the efficacy of its therapeutic methods. Historical, cultural and language scholarship can help English-speaking Westerners to better understand traditional perspectives of the medical body. Traditional perspectives in turn can reveal the coherence between Chinese medical concepts, the clinical process and the logic guiding therapeutic decisions.

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Conference Reports

ICCMR 2013 – International Congress for Complementary Medicine Research

London, United Kingdom

11–13 April 2013

Zhen Zheng

The 8th International Congress for Complementary Medicine Research (ICCMR) was held from 11–13 April 2013 in London.

ICCMR is the annual conference of the International Society for Complementary Medicine Research. It is the time of year when isolated complementary medicine researchers come from all over the world to meet and to have their fellowship. Four hundred and thirty delegates from 36 countries attended the conference.

We are familiar with the names of a number of speakers from many publications associated with Chinese medicine: Alan Bensoussan, Myeongsoo Lee, George Lewith, Klaus Linde, Hugh MacPherson, Karen Sherman, Claudia Witt and Charlie Xue. Those researchers have produced a significant amount of evidence for acupuncture and Chinese herbal medicine in the last 10 years. In addition to Chinese medicine, topics extended to homeopathy, spirituality, research methods, qualitative research and cost-effectiveness analysis.

I took two main themes from the conference.

1. Research in complementary medicine is more important than ever. It is up to us to develop the appropriate methods to study complementary and alternative medicine (CAM). Quantitative research, such as

randomised controlled trials (RCTs) is necessary, as is qualitative research, in which patients and practitioners' view and experience about the therapy and services delivery are obtained and studied.

2. Research in cost-effectiveness is essential in putting CAM into any health service system. Because of a lack of research in the cost-effectiveness analysis of acupuncture for osteoarthritis, the National Institute for Health and Clinical Excellency (NICE), who 'provides national guidance and advice to improve health and social care' in the United Kingdom (UK), recommended in 2009 in the guideline for osteoarthritis that 'Electro-acupuncture should not be used to treat people with osteoarthritis'. However, in 'Low back pain: Early Management of Persistent Non-Specific Low Back', NICE recommended that health care providers 'Offer one of the following treatment options, taking into account patient preference: an exercise programme, a course of manual therapy or a course of acupuncture'. This significant difference lies in the available evidence of acupuncture for low back pain. Using data from a UK based acupuncture trial,¹ Ratcliffe et al (2006)² found that when compared with usual care, up to 10

sessions of traditional acupuncture over three months is more cost-effective in the following 24 months.

This case illustrates the necessity of conducting trials and research in Australia, in particular, if we want to improve the application of Chinese medicine and acupuncture in this country, and if we want to include acupuncture in Medicare.

In addition to the knowledge gained, it always brings warmth when I go to conferences where kindred spirits can discuss and share their experience. If you are an educator or researcher in CAM, then this conference is definitely for you. If you are a practitioner who is reflective and interested in the future and mechanisms of your therapy, then this conference is also for you. To find more about the 2014 conference, please check www.iscmr.org.

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16th International Congress of Oriental Medicine

Seoul, Korea

14–16 September 2012

Organised by the International Society of Oriental Medicine

www.icom2012.org

Judy James

The 16th International Congress of Oriental Medicine (ICOM) was held in Seoul, Korea, on 14–16 September 2012 under the theme ‘The Future of Medicine, Traditional Medicine’. ICOM is held biannually, usually in Korea, Japan or Taiwan, and, with a reported estimate of 16 000 delegates and exhibitors, it is the largest international conference on traditional medicine.

The International Society of Oriental Medicine (ISOM), who organised the conference, had approached the Australian Acupuncture and Chinese Medicine Association Ltd (AACMA) for a contra exhibition booth arrangement, whereby the ISOM exhibition booth at AACMAC 2012 was given in exchange for an AACMA exhibition booth at ICOM. Therefore, my purpose in attending as AACMA representative was to promote the WFAS Sydney 2013 conference to ICOM delegates and to manage the AACMA exhibition booth.

For me, the most important aspect of this conference was the networking. Most delegates were from Korea, but a considerable number visited from other East Asian countries, Europe, South and South-East Asia, North America, Africa and, of course, Australia and New Zealand.

The main practical difference between this and other conferences I have attended, apart from the sheer size, was the absence of any catering. Black coffee could be purchased in the exhibition area, but otherwise delegates had to fend for themselves in terms of meals. This did create some challenges

for a non-Korean speaker; however, there were many food outlets in other parts of the venue (COEX) in Seoul’s Gangnam district.

As AACMA is a member of ISOM, I attended the annual ISOM meeting representing AACMA’s Past-President James Flowers. As ISOM’s purpose is to run academic conferences, the meeting was largely spent reporting on the ICOM 2012 and deciding on the next venue. Taiwan will be host to the next ICOM in 2014.

On the social side, there was a welcome dinner on the Friday evening and a formal conference dinner on the Saturday evening. I was privileged to be seated at the main table between the President of ISOM and the Editor-in-Chief of the *Evidence-Based Complementary Medicine* journal (eCAM). The evening progressed with entertaining presentations from many national representatives, and appropriately ended with a video of the song ‘Gangnam Style’ by Korean pop star Psy.

The two invited speakers from Australia and New Zealand were each asked to prepare a short report on their experiences of the conference, which follow this report. Stephen Janz is a Past-President of AACMA and the practitioner member for Queensland on the inaugural Chinese Medicine Board of Australia (CMBA). Paddy McBride is President of the New Zealand Register of Acupuncturists (NZRA) and a Vice-President of the World Federation of Acupuncture-Moxibustion Societies (WFAS).

A View From Australia

By Stephen Janz
(AACMA Past-President)

I was fortunate to have been invited to present a paper on ‘Acupuncture Education Standards in Australia’ in the Standards session at ICOM in Seoul. ICOM brought together researchers and clinicians from around the world, with a large Korean contingent of practitioners making up the majority of the forecast 16 000 attendees. Of note was a presentation from Simon Becker on the state of Chinese medicine in Europe, where he reported that acupuncture now has legal status in two EU countries: Belgium and Germany. Peggy Bosch, from the Netherlands, reported on her research on acupuncture for schizophrenia, insomnia and depression and gave an indication of how acupuncture can be used in an institutional setting.

The conference was interesting not only for the presentations, but for the insights into Korean practice as well. I was surprised to learn that arguably the world’s first textbook on public health, the *Dongui Bogam*, was written in Korea 400 years ago. It is now listed by UNESCO and is undergoing English translation. Acupuncture and herbal medicine has a long history in Korea, with much of its history shared with China and dating back about three thousand years. In Australia, acupuncture and Oriental herbal medicine are registered under the title of ‘Chinese medicine’; In Korea, acupuncture and herbal medicine are used under the title ‘Korean Oriental Medicine (KOM)’, acknowledging the Korean style of practice there.

KOM has been authorised by the Korean Ministry of Health since 1951, and South Korea's 20 000 KOM doctors must be licensed by the Ministry of Health in order to practise. Eleven universities teach a six-year degree in KOM, with approximately 800 new graduates per year. Unlike Australia, Korea's equivalent of Medicare has paid insurance rebates for KOM since 1987 and has incorporated KOM into its public health services. I was particularly taken by the use of KOM in international aid programs. A group called KOMSTA (Korean Medicine Service Team Abroad) provides acupuncture and traditional medicine to remote areas, and has provided services to 27 countries since 1993. KOMSTA currently has programs in Kazakhstan, Uzbekistan, Mongolia and Vietnam. One attraction of these programs is that acupuncture and herbal medicines are able to provide aid in areas where expensive modern medicines are in short supply.

The conference was also used to promote the government-supported World Traditional Medicine Expo, to be held over 45 days in Sancheong, Korea in September 2013. The expo will feature traditional medicines from

countries worldwide, and include opportunities for participants to try many of the therapies showcased. Korea is a country that embraces science and technology (as evidenced by Korean companies such as Samsung, LG, Hyundai etc.), yet still finds value in keeping and continuing to develop traditional healing technology.

A View From New Zealand

By Paddy McBride (NZRA President)

The 16th International Congress of Oriental Medicine in Seoul was quite an event. With more than 16 000 delegates from throughout the world, this was certainly the largest event of its type that I have attended. Everything was on an enormous scale – the venue, the COEX Centre, is also the home to the largest shopping mall in all of Asia, and the congress events were spread over three floors. Vast expanses of marble and glass, escalators in all directions and registration for different groups at different locations within the centre meant there was a lot of walking and a considerable amount of getting lost!

The trade exhibitors' area was extensive and crowded, particularly on the

Sunday. Many of the local delegates worked in their clinics on Saturday then came along on Sunday to catch up with all the latest products and services. From a Kiwi perspective, it was pleasing to see such a large crowd gathered around the stand promoting New Zealand deer velvet. It was also good to touch base with the suppliers and to hear about the strong ongoing relationship they have established with Korean suppliers and practitioners. Also of interest was the KOMSTA display. KOMSTA (Korean Medicine Service Team Abroad) provides a service whereby practitioners can volunteer their skills and knowledge to work with people in countries who are less well-served by efficient and effective health care.

Before travelling to Seoul for the congress, my understanding of the differences between traditional Chinese medicine and traditional Korean medicine was minimal. It was very heartening to learn of the wide acceptance of traditional medicine throughout the health care system in Korea; I feel we have a great deal to learn from our Korean colleagues when it comes to fully integrating with the health care system here in New Zealand – and, of course, in Australia.

UPCOMING INTERNATIONAL CONFERENCES

2013

- 6 September–
20 October Sancheong, Korea
World Traditional Medicine Expo; visit www.eng.tramedi-expo.or.kr
- 9–13 September Changwon, Korea
8th International Congress on Traditional Asian Medicine; Visit www.iastam.org
- 21–22 September San Francisco, USA
WFCMS 10th World Congress of Chinese Medicine
(World Federation of Chinese Medicine Societies); Visit www.2013wccm.com
- 26 – 27 September Chengdu, China
The 4th International Conference on the Modernization of Traditional Chinese Medicine
Visit www.icetcm.org
- 4–5 October Berlin, Germany
6th European Congress for Integrative Medicine; Visit www.ecim-congress.org
- 2–5 November Sydney, Australia
WFAS 8th World Conference on Acupuncture
(World Federation of Acupuncture-Moxibustion Societies); Visit www.wfas2013sydney.com
- 29 November–
1 December Vienna, Austria
ICMART Congress 2013
(International Council of Medical Acupuncture and Related Techniques); Visit www.icmart.org

2014

- 13–16 May Miami, USA
IRCIMH (International Research Congress on Integrative Medicine and Health)
Visit www.ircimh.org/2014
- 16–18 May Melbourne, Australia
Australasian Acupuncture and Chinese Medicine Annual Conference (AACMAC)
Visit www.acupuncture.org.au
- 27 May–1 June Rothenburg, Germany
TCM Kongress; Visit www.tcm-kongress.de/en
- 3–7 September Slettestrand, Denmark
4th Scandinavian TCM Congress; Visit www.tcm-kongres.dk