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Oral Abstracts

O-1
A QUALITATIVE ANALYSIS OF THE EXPERIENCE OF ACUPUNCTURE FOR CHRONIC PAIN IN A LOW-INCOME, ETHNICALLY DIVERSE AND MEDICALLY UNDERSERVED PATIENT POPULATION

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Purpose: To examine the experience of patients from a low income, ethnically diverse medically underserved population receiving acupuncture for chronic pain.

Design: Qualitative analysis using inductive thematic analysis of interviews with subjects from an acupuncture trial.

Subjects: 37 adults at four community health centers in the Bronx, NY, with chronic neck or back pain or osteoarthritis who participated in a previous acupuncture trial. Interventions up to 14 weekly acupuncture treatments.

Outcome measures: Pain and quality of life were examined in the original trial; this study examines qualitative outcomes.

Results: The themes grouped into three domains of the acupuncture experience: the decision-making process; the treatment experience; and the impact of acupuncture on health. Regarding decision-making, important factors were a willingness to try something new even if you do not necessary ''believe'' in it or have positive expectations; a sense that medications were not working for their pain, that they caused significant adverse effects, and that natural strategies might be preferable; and a feeling of desperation. Cost and access were significant barriers to acupuncture treatment. Regarding the process of acupuncture, the open and personal communication with the acupuncturist was an important factor, as were the sense that the process of acupuncture related to a natural process of healing or correction within the body and that part of making acupuncture successful required being open to the power of the mind to generate a positive outcome. Regarding the impact of treatment notable aspects were the deep sense of rest and relaxation subjects reported during treatment and the benefit they experienced for conditions other than pain.

Conclusions: The themes that emerged in our ethnically diverse, low income population were very similar to those that have emerged over the past decade of qualitative research on the acupuncture experience in more homogeneous, middle class patient populations.

O-2
A RANDOMIZED STUDY COMPARING THE EFFECTIVENESS OF ACUPUNCTURE OR MORPHINE VERSUS THE COMBINATION FOR THE RELIEF OF DYSPNEA IN PATIENTS WITH ADVANCED NSCLC AND MESOTHELIOMA

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Background: Dyspnea is a common symptom of lung cancer. Morphine is widely used to control dyspnea.

Method: We randomized 173 patients with advanced NSCLC or mesothelioma with dyspnea score ≥ 4 on visual analogue scale (VAS) to one of three arms (acupuncture [A], morphine [M] or combination [AM]). A was delivered to upper sternal, paravertebral, hand and trapezius trigger points. Semi-permanent acupuncture studs were inserted in upper midline sternal points and patients instructed to massage them when dyspnoeic. Arm A were given rescue morphine if needed. We recorded VAS dyspnea and relaxation, lung function tests and EORTC QLQ-30/QLQ-LC13 questionnaires at baseline, 30mins, 90mins, 4 hours, day 2, 7 and 14. Primary endpoint was proportion of patients achieving ≥ 1.5 improvement in VAS dyspnea at 4 hours.

Results: Dyspnea improved by ≥ 1.5 points on VAS in 74% of patients in A, 60% in M and 66% in AM (A versus M $p = 0.12$, AM versus M $p = 0.50$). Mean VAS relaxation was improved in A (-1.06 ± 2.60) and AM (-1.48 ± 2.05) compared to M ($0.19 \pm 2.43; p < 0.001$). Day 7 median LAR VAS anxiety score was improved in A (1.50) and AM (1.2) compared to M (0; $p = 0.003$). Day 7 median LAR VAS relaxation score was improved in A (-1) and AM (-0.94) arm compared to M (0; $p = 0.006$). 21% of patients in A, 87% in M and 87% in AM took one or more doses of morphine ($p < 0.001$). 8% of A, 35% of M and 39% of AM reported grade 1/2 toxicities in line with morphine's toxicity profile. Two cases of skin irritation were attributable to acupuncture site dressings.

Conclusion: Acupuncture was found to be as effective as morphine in treatment of dyspnea and has additive value for anxiety and relaxation. Acupuncture is morphine sparing. Acupuncture should be a treatment available to lung cancer patients with dyspnea.

O-3
ACUPUNCTURE AT PC6 PROTECTS MYOCARDIUM AGAINST ISCHEMIA AND ISCHEMIA-REPERFUSION INJURY THROUGH EPIGENETIC REGULATION

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Background: Acupuncture exerts cardioprotective effects on several types of cardiac injuries, including myocardial ischemia (MI)and ischemia-reperfusion(I/R), but the mechanisms have not yet been well elucidated. By employing high throughput sequencing technology, we aim to explore the possible cardioprotective mechanisms of acupuncture in coronary arterial disease patients, MI and I/R rats.

Methods & Results: Based on the TCM theory, Neiguan(PC6)was selected to be needled using Han's stimulator for 4 weeks (3 times/wk) in the patients, 1 week(once a day)in the MI rats, and 2 weeks(once a day) in the I/R rats prior to I/R operation. For RNA-seq analysis,peripheral blood was collected and neutrophils were selected in the patients,and heart tissues

were harvested in the rats. The results showed that electro-acupuncture treatment at PC6 in human patients and rats can effectively protect myocardium. RNA-seq study revealed the gene expression signatures of angina patients, MI rats and acute myocardial I/R rats.Pathway analyses showed that acupuncture can modify multiple functional genes, including genes involved in ECM, MAPK signaling, apoptosis, cytokine and leukocyte pathways. In addition, some pathways were uniquely regulated by EA at PC6, but not non-acupoint. Furthermore, we investigated epigenetic modifications in the patients and animals.Our study has determined that increased H3K9 acetylation was according with the upregulated VEGF expression in the EA-treated MI rats.ChIP-seq is being used to uncover genome-wide profiles for histone modifications in the target tissues.

Conclusions: Our study demonstrates for the first time that acupuncture can effectively regulate gene expressions through H3K9 acetylation modification directly at the gene promoter in rat MI models. We employed high throughput sequencing and, for the first time, generated genome-wide gene expression profiles both in the rat MI and I/R model and in human patients with/without acupuncture treatment. We also are continuing to explore the epigenetic modifying patterns in the patients and animals using ChIP-seq analysis.

O-4
ACUPUNCTURE EFFECT ON FUNCTIONAL CONNECTIVITY OF SENSORIMOTOR NETWORK IN BELL'S PALSY; FMRI STUDY

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Introduction: Acupuncture is known as an effective treatment for Bell's palsy (BP) which is common peripheral idiopathic disease affecting the facial nerve VII causing inability to control facial movement. We investigated both BP and acupuncture effects on sensorimotor network (SMN) connectivity changes due to neuroplasticity in BP's patients.

Methods: Two 10 minutes (TR=3sec) rest-fMRI were performed as pre- and post-acupuncture for 35 healthy participants and 58 BP patients. Patients' scans were divided - based on disease duration (D) and House-Brackmann score (HB) at scan day - into early (HB>I, D<14days), and late (HB>I, D>14day) groups. Acupuncture treatment was performed three times a week at four acupoints including Hegu which was only used in scan. Dual regression-ICA approach was performed to find SMN and right sided BP patients' maps were flipped so paretic side corresponding to right hemisphere. We obtained difference maps between normal and patients' groups to observe BP effect, and between post and pre-acupuncture to identify acupuncture effect.

Results: For BP effect, SMN of early group had increased connectivity over healthy group at sensorimotor processing areas including bilateral SI and supramarginal gyrus, ipsilateral (left) middle cingulate cortex as well as cognitive and emotional processing area including ipsilateral DLPFC and contralateral(right) anterior cingulate gyrus. Interestingly for acupuncture effect, early group, SMN connectivity to sensorimotor processing areas including bilateral SI, MI and SII; ipsilateral insula was decreased after acupuncture, while there was increase in contralateral SI, MI, Insula and SII in late group.

Conclusion: BP increased SMN connectivity with different brain regions due to neuroplasticity even within short duration at early stage and at both hemispheres which may be a compensatory way to solve the impairment of facial movement. It can be speculated that acupuncture controlled SMN connectivity changes due to BP in order to recover SMN connectivity pattern towards normal.

O-5
ACUPUNCTURE FOR INFLAMMATORY PAIN AND CENTRAL SENSITIZATION – A PILOT STUDY

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Aim of Investigation: Clinical trials of acupuncture have demonstrated analgesic effects, though the mechanisms and variables contributing to specific and non-specific effects have yet to be elucidated. Validation of a human experimental pain model mimicking relevant aspects of clinical pain is highly desirable to advance our understanding of mechanisms behind the beneficial effects of acupuncture treatments. The aim of this study was to validate an experimental human inflammatory pain model to examine anti-inflammatory, analgesic, and antihyperalgesic effects of electroacupuncture as compared to sham acupuncture.

Methods: Randomized, double blind, crossover with fifteen healthy human volunteers (12/3 female/male, age 37 +/- 12yr) who received electroacupuncture and sham electroacupuncture in two subsequent sessions that were one week apart.

An experimental inflammatory lesion (sunburn) was induced with a calibrated UVB-light source 24h before the intervention. The following outcomes were assessed before and after verum and sham acupuncture: skin inflammation with laser doppler imaging assessing blood flow velocity, and pain sensitivity by assessing heat pain threshold and temporal summation of repeated heat pain stimuli. Sham acupuncture used the Streitberger technique.

Results: Blinding was effective. Temporal summation was elicited (p<.0001). Effects of electroacupuncture and sham acupuncture on heat pain threshold in inflamed and non-inflamed skin were not significantly different, nor were statistically significant differences detected in erythema or temporal summation.

Conclusions: Feasibility of the model was demonstrated, though differences were not detected between intervention and control groups on primary outcomes. We suggest that the techniques used to preserve blinding in a crossover design limited the magnitude of effect, generating a type II error. Future studies would employ larger amplitude electrostimulation and employ

non-crossover design. Demonstrating analgesic, anti-hyperalgesic or anti-inflammatory effects of electroacupuncture in a human inflammatory pain model would allow researchers to examine specific contributions of the multiple variables which comprise clinical acupuncture.

O-6
ACUPUNCTURE INDUCED BODILY ATTENTION AND CORTICAL ACTIVATION PATTERNS

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Objectives: Enhanced body schema triggered by acupuncture stimulation can influence the homeostatic control system through a modulated salience network of the brain. We investigated commonalities and differences in brain responses to enhanced bodily attention around the acupuncture points with or without actual stimulation.

Methods: Fourteen participants received acupuncture needles at both PC6 (median nerve) and HT7 (ulnar nerve) acupoints in the left hand. To enhance bodily attention to acupoints, participants were required to respond to the locations of stimulations at PC6 or HT7 in a two alternative-forced choice task. Two fMRI scans were taken in a block design: session 1 labeled with manual stimulation (actual stimulation with randomized acupoint stimulation) and session 2 labeled with electro-acupuncture (no physical stimulation; pseudo-stimulation).

Results: In the conjunction analysis, both actual and pseudo-stimulation produced brain activations in the insula, anterior cingulate cortex, secondary somatosensory cortex, superior parietal cortex, and brain deactivations in the medial prefrontal cortex, posterior cingulate cortex, inferior parietal cortex, and the parahippocampus. In the contrast analysis, actual stimulation exhibited greater brain activations in posterior insula, posterior operculum and the caudal part of anterior cingulate cortex, compared to pseudo-stimulation.

Conclusions: We demonstrated that enhanced bodily attention triggered by acupuncture stimulation is able to activate the salience network and deactivate the default mode network - regardless of actual stimulation. Our findings suggest that the component of enhanced attention to a certain part of the body plays an important role in the brain responses to acupuncture stimulation. From the perspective of neuroscience, acupuncture-induced sensation is not only coming from the bottom-up modulation of 'simple needling' in the somatosensory receptor, but also from the reciprocal interaction with the top-down modulation of the brain.

O-7
ACUPUNCTURE-ENHANCED PSYCHOTHERAPY FOR PAINFUL ENDOMETRIOSIS: A RANDOMIZED CONTROLLED PRAGMATIC TRIAL WITH BRAIN IMAGING

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This randomized controlled pragmatic trial investigated whether patients with a history of endometriosis, who suffered from pelvic pain, may benefit from a treatment combining psychotherapeutic strategies with acupuncture point stimulation. In addition, patients underwent functional magnetic resonance imaging before and after a three months treatment period to identify brain processes underlying treatment success.

Sixty-seven adult females diagnosed with endometriosis were randomized to either three months of treatment or a waiting-list control group. After three months, the control group patients were eligible for treatment, too. We evaluated pain (global and pelvic, dyspareunia, dyschezia), quality of life (SF-12), anxiety and depression (HADS), as well as functional well-being (FW-7). Functional imaging analysis focused on intrinsic functional connectivity of the hippocampus, as the psychological intervention aimed at reducing the effects of traumatic memories.

Three months after randomization, the proportion of patients with reduction in global pain by at least 50% was markedly higher in the treatment group than in the control group (43.8 vs. 3.6%; p < 0.001). Mean improvements in global and pelvic pain, dyspareunia, restrictions in daily life activities, physical quality of life, anxiety and depression scores, and functional well-being were significantly larger in treated patients than in controls. The data after six months further corroborated the results.

Functional connectivity analysis revealed a significant interaction between time and group allocation in the right antero-rolateral hippocampus showing altered connectivity with the bilateral primary and secondary somatosensory cortices as well as the frontoinsular cortex.

We conclude that patients with a history of endometriosis, who suffer from pelvic pain, can obtain substantial benefit from acupuncture-enhanced psychotherapy by a mechanism involving brain regions of the emotional memory and somatosensory systems.

O-8
ACUPUNCTURE WITH MANUAL AND ELECTRICAL STIMULATION FOR LABOR PAIN

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Background: Previous studies are inconclusive regarding the effect of acupuncture on labor pain. The appropriate dose of acupuncture treatment required to elicit a potential effect on labor pain has not been fully explored. The overall aim of this thesis was to evaluate the effectiveness of acupuncture with manual stimulation (MA) of the needles as well as acupuncture with a combination of manual and electrical stimulation (EA) in reducing labor pain, compared with standard care without any form of acupuncture (SC).

Methods: The study was designed as a three-armed randomized controlled trial in which 303 nulliparous women with

normal pregnancies were randomized to MA, EA, or SC. The primary outcome was labor pain, assessed using the Visual Analogue Scale (VAS). Secondary outcomes were relaxation, obstetric pain relief, labor and infant outcomes, recollection of pain and birth experience The sample size calculation was based on the potential to discover a difference of 15 mm on the VAS.

Results: The mean VAS scores were 66.4 in the MA group, 68.5 in the EA group, and 69.0 in the SC group (mean differences: MA vs. SC 2.6 95% CI -1.7 to 6.9, and EA vs. SC 0.6 95% CI -3.6 to 4.8). Other methods of pain relief were used less frequently in the EA group, including epidural analgesia, MA 61.4%, EA 46%, and SC 69.9%. (EA vs. SC OR 0.4 95% CI 0.2 to 0.7).

Conclusion: Acupuncture, regardless of type of stimulation, did not differ from standard care without acupuncture in terms of reducing women's experience of pain during labor, or their memory of pain and childbirth overall two months after the birth. However, other forms of obstetric pain relief were less frequent in women receiving a combination of manual and electrical stimulation, suggesting that this method could facilitate coping with labor pain.

O-9
BRAIN RESPONSE TO ELECTROACUPUNCTURE AND IMPROVED S1 NEUROPLASTICITY FOLLOWING A COURSE OF ACUPUNCTURE THERAPY PREDICTS LONG-TERM CLINICAL IMPROVEMENT IN CARPAL TUNNEL SYNDROME

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Carpal tunnel syndrome (CTS) is a median nerve entrapment neuropathy, manifesting in pain and paresthesia. CTS is characterized by less separated representations of index (D2) and middle (D3) digits in primary somatosensory cortex (S1). Although acupuncture has been shown to improve CTS symptoms, long-term effects are unknown. This study investigated if response to electroacupuncture and improved S1 neuroplasticity following a course of acupuncture therapy predicts long-term clinical improvement in CTS.

CTS subjects (n=79) were randomized into 3 groups (local, distal, or sham) and received 8-weeks of acupuncture treatment. Electro-acupuncture was applied to acupoints ipsilateral PC7/TW5 (local), or contralateral SP6/LV4 (distal) to the more affected hand, while sham electrostimulation was applied on non-acupoints (sham). CTS symptoms were assessed with Boston Carpal Tunnel Syndrome Questionnaire (BCTSQ) before, immediately after, and at 3 and 6 months follow-up to acupuncture therapy. FMRI was used to evaluate D2/D3 separation distance and brain response to electroacupuncture. A regression analysis was performed to predict long-term outcomes from these fMRI responses. Whole-brain analyses were cluster corrected for multiple comparisons (z>2.3, p<0.05).

BCTSQ scores were improved following therapy for all three groups (p<0.01). However, 3-month and 6-month outcomes remained improved for verum (local and distal combined), but not sham. Anterior insula activation to verum acupuncture was associated with change in BCTSQ function at 6-months (r=-0.8). The verum group also demonstrated significant increase in D2/D3 distance (p<0.01) following acupuncture, while no change was found for sham (p>0.2). Furthermore, this change in D2/D3 distance was negatively correlated with change of BCTSQ symptom at 3-month follow-up (r=-0.47, p=0.04). Thus, greater increase in D2/D3 distance predicted greater CTS symptom relief at 3-month.

Long-term clinical improvements were only seen for verum acupuncture. Acupuncture-evoked insula response and S1 neuroplasticity following a 8-week course of acupuncture therapy can help predict long-term improvements in CTS symptomatology.

O-10
BRAIN WHITE MATTER MICROSTRUCTURE CHANGES FOLLOWING ACUPUNCTURE IS ASSOCIATED WITH IMPROVED CLINICAL OUTCOMES FOR CARPAL TUNNEL SYNDROME: A DTI STUDY

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Purpose: We have previously demonstrated structural and functional brain neuroplasticity in primary sensorimotor (S1/M1) cortices for carpal tunnel syndrome (CTS), a common entrapment neuropathy associated with pain and paresthesia in the hand and wrist. We evaluated neuroplasticity following acupuncture in brain white matter related to primary somatosensory and motor areas.

Methods: We enrolled 60 CTS patients (49F, age=49.7±8.8) and 34 age and sex-matched healthy controls (25F, age=48.6± 9.8). After baseline clinical and MRI evaluation, CTS patients were randomized to either local (n=21), distal (n=18), or sham (n=21) acupuncture (2 months). Diffusion-weighted MRI images were used to quantify WM microstructure related to ROIs defined by somatotopic contra- and ipsi-lesional S1/M1 fMRI response to vibrotactile stimulation for median nerve innervated digits. Number of WM fibers and diffusivity measures were estimated for tracts leaving these ROIs using probabilistic tractography (FSL). Clinical measures were evaluated at baseline, following therapy, and at 3-month follow-up, and included median nerve latencies and Boston CTS Questionnaire (BCTSQ) symptom/functional scales.

Results: No differences were noted between local and distal acupuncture, which were then combined into a ''verum'' group. Verum, but not sham, acupuncture improved nerve latencies (P=0.04), while BCTSQ outcomes were improved for all groups

following therapy, but only verum acupuncture at 3-month follow-up. Verum acupuncture increased ipsilesional M1 tract fiber number to a greater degree than sham (P=0.04). Moreover, after verum and not sham acupuncture, changes in this tract's mean diffusivity and fiber number were correlated with changes in BCTSQ symptom severity at 3 month follow-up (r=−0.43,P=0.02; r=0.38, P=0.04, respectively).

Conclusion: Verum acupuncture improved both symptoms and peripheral nerve conduction in CTS. Acupuncture also induced changes in M1-associated white matter microstructure, and this change was closely associated with long-term improvements in symptom severity. Our study demonstrates that brain white matter neuroplasticity is sensitive to acupuncture therapy.

O-11
DECREASED BRAIN ACTIVITY AND FUNCTIONAL CONNECTIVITY DURING PRESSURE PAIN AFTER SHAM BUT NOT VERUM ACUPUNCTURE TREATMENT IN FIBROMYALGIA

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Objective: The purpose of this study was to evaluate changes in brain activity and connectivity during evoked pain in fibromyalgia (FM) patients following verum (VA) versus sham acupuncture (SA) treatment.

Methods: 38 female patients satisfying American College of Rheumatology 1990 criteria for FM were randomized to receive either VA (n=17) or non-skin penetrating SA (n=21) with 9 treatments over 4 weeks. Before and after treatment, patients underwent evoked pressure pain during functional magnetic resonance imaging (fMRI), wherein 2kg pressures to the thumb were interleaved with rest periods. Analyses were performed using SPM 8 running on Matlab 10.

Changes in activation in response to evoked pressure pain following sham versus verum treatment were assessed using a 2 sample t-test. Longitudinal changes in functional connectivity were evaluated using a paired analysis within group comparison over time using the CONN toolbox. Significance was set at a voxel-wise uncorrected p-value of <0.001 and cluster corrected at p<0.05 False Discovery Rate (FDR). Clinical pain reduction was assessed with the Short Form McGill Pain Questionnaire (SF-MPQ).

Results: Clinical pain affective (P<0.001), sensory (P<0.016) and total scores (P<0.001) of the SF-MPQ were all reduced following VA, while only SF-MPQ affective was reduced following SA (P<0.001). During evoked pain, significant decreases in brain activation were observed in the hippocampus following SA treatment (−0.27±0.32) compared to VA (0.09±0.15) (P=0.004). Longitudinal brain connectivity analysis during evoked pressure pain in response to sham treatment showed significant decrease in connectivity between insula and middle frontal gyrus (P=0.02), and between right superior frontal gyrus and dorsolateral prefrontal

cortex (P=0.01). These connectivity findings were not observed following VA (P>0.05).

Conclusion: Our findings suggest that evoked pain brain activity and connectivity may be objective markers that reflect sham, but not verum acupuncture in FM.

O-12
DEGREE OF WIDESPREAD PAIN PREDICTED CLINICAL RESPONSE TO ACUPUNCTURE – PRELIMINARY RESULTS FROM A PRAGMATIC NATIONAL PAIN REGISTRY STUDY AT A TERTIARY PAIN CENTER

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Purpose: In the United States, acupuncture is most commonly used to treat chronic pain, and has been shown to be effective in several pain conditions. However, not all patients respond to acupuncture, and it is important to identify potential acupuncture responders. Widespread pain (WSP) refers to the number of body locations where a patient reports spontaneous pain. It is thought to be related to central dysregulation in pain perception, which can be normalized by acupuncture. We thus hypothesized that patients with more WSP would be more likely to respond to acupuncture. We conducted a prospective pragmatic study to test our hypothesis and report preliminary results below.

Methods: Participants/Intervention: patients undergoing acupuncture at a tertiary academic pain center who completed symptom survey within 30 days before and after the treatment course, defined as acupuncture course with ≤2weeks between consecutive treatments. Collaborative Health Outcomes Information Registry (CHOIR): As part of their clinical care, patients at this clinic fill out electronic surveys on pain intensity, degree of WSP, physical and emotional function and sleep at each clinic visit.

Measures: Primary outcome: pain intensity by NRS. Responder: those with ≥30% pain reduction. WSP: measured by standardized BodyMap containing 74 areas over the front and the back of the body.

Results: 146 patients received acupuncture between 08/2012 and 11/2014. Of these, 34 provided WSP data before and pain scores before and after treatment; 40% responded to acupuncture. Patients reporting 6 or more areas of pain were 3.4 times more likely to respond (odds ratio 3.4, P=0.33 by Fisher's exact test).

Conclusion: There is a trend of relationship between WSP and acupuncture analgesia in this unique study utilizing patient reported outcomes from CHOIR. More data will be collected and analyzed against pain AND other outcomes (eg physical and emotional function) by Aug 2015.

O-13
"EVIDENCE-INFORMED MANUALIZATION": DEVELOPMENT AND FEASIBILITY ASSESSMENT OF A MANUAL FOR ACUPUNCTURE DURING ACUTE POST-STROKE CARE

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Purpose: In acupuncture research, treatment manualization serves to balance competing imperatives of individualization and repeatability. Manuals for previous clinical trials have been developed a priori by consensus processes; these provide insufficient individualization for acute post-stroke care, given the heterogeneity of patient presentation and plurality of acupuncture treatment approaches available. This study's approach drew on existing frameworks for complex interventions research, as well as manualization in nursing, rehabilitation medicine and other disciplines. Acupuncturist researchers developed the manual iteratively through cycles of information-gathering, planning, implementation and evaluation over 25 months.

Methods: At an inpatient neurology/rehabilitation unit, work proceeded in three phases: literature review and clinical self-observation by acupuncturists; development and use/evaluation of the manual's logical structures; and finally piloting the manual in a concurrent cohort study (N=48). In this pragmatic approach, departures from the manual were permitted to optimize patient care. These departures then drove ongoing revisions of the manual, as an end product of the study. The resulting manual had two parts. First, flowsheets guided initial patient assessment and treatment, as well as ongoing treatment for the majority of patients. Second, for unusual or refractory cases, an index summarized best available evidence for consultation by the acupuncturist.

Results: Acupuncturists reported rationales for all departures. Within 205 treatments, manualized treatments were seldom seen as inappropriate (2 departures, or 1%) or suboptimal (4, or 2%). Results of the cohort study suggest feasibility of future trials for outcomes of functional independence, bowel function and sleep. A survey of stakeholders in the rehabilitation process (patients, family members, nurses, physicians and rehabilitation therapists) found that manualized treatments were widely perceived as beneficial.

Conclusions: 'Evidence-informed manualization' of acupuncture treatment is accepted by acupuncturists and patients. It provides both individualization and repeatability, also allowing for revision on the basis of patient encounters during the study.

O-14
GROUP ACUPUNCTURE FOR ACUPUNCTURE

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Purpose: To assess feasibility and acceptability of group acupuncture versus group education and stretching in a population of women with fibromyalgia.

Methods: 24 women were recruited to receive either 20 group treatments of acupuncture or an equivalent number of hours of group education and stretching over 10 weeks. Participants were allocated using the randomized Aickin design adaptive allocation process. Pain and functional impact (FIQR), fatigue (MAF), sleep (actigraphy) were assessed at baseline, and end of treatment. Additionally, weekly pain measures were captured from baseline during treatment and four weeks following end of treatment. Acceptability was measured by attendance to treatment visits and completion of measures with a goal of 80%. Feasibility was measured by recruitment and ability of practitioners to complete the protocol.

Results: The treatments were both acceptable and feasible. Both groups had over 80% with 3 dropouts unrelated to study protocol. At baseline the two groups were balanced on FIQR total score (mean 53.15 SD 15.3), expectation (mean 4.2 out of 7, SD 1.9), BMI (mean 32.8 SD 8.7), and age (mean 54.7 SD 11.5) with all p values greater than 0.2. Fatigue, symptom impact, and pain were significantly improved in the group acupuncture ($p < 0.05$) at end of treatment. Those who saw improvement did so starting the fourth week hinting that 8 to 10 treatments are an appropriate decision making point for patients with most improvement leveling out around 16 - 18 treatments. Nociceptive reflex was inconclusive though there was improvement in the group acupuncture group versus the education and stretching group. Recruiting is ongoing.

Conclusions: Group acupuncture appears to be both feasible and acceptable. Further studies are necessary to determine the treatment curve and whether central sensitivity, as measured by nociceptive reflex, is improved.

O-15
THE ACCEPTABILITY AND CLINICAL OUTCOMES OF ACUPUNCTURE PROVIDED IN THE ABBOTT NORTHWESTERN HOSPITAL EMERGENCY DEPARTMENT

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Purpose: We have shown that acupuncture reduces pain and anxiety in patients within Abbott Northwestern Hospital (ANW). This study examined acceptability and potential effectiveness of acupuncture for pain and anxiety relief in the ANW Emergency Department (ED).

Methods: The IRB-approved retrospective study period was 11/1/13 to 12/31/14. Demographics, clinical, and acupuncture variables were extracted from the EPIC electronic health record. Patients received acupuncture in addition to standard of care when ordered by an attending ED provider, based on their clinical judgment of the patients' condition. Patient self-reported pain and anxiety scores on an (0–10) 11 point scale were collected by the acupuncturist before (pre) and immediately after (post) acupuncture.

Results: During the study period, 311 patients were approached by the acupuncturist during their ED visit. Consent was obtained from 89% and the majority (87%) received acupuncture as a standalone intervention. Patients with pre-pain >0 (n = 204) had a mean pre-pain of 6.84 (2.56 sd) and reported an average decrease of -2.41 (-2.71, -2.10 95% CL). Of those patients, 40% reported at least a 50% pain reduction. Furthermore, 181 patients (pre-pain >3) had a mean pre-pain of 7.46 (1.96 sd) and reported an average decrease of -2.57 (-2.91, -2.24 95% CL). Of those patients, 36% reported at least a 50% pain reduction. Patients with pre-anxiety >0 (n = 166) had a mean pre-anxiety score of 5.93 (2.66 sd) and an average decrease of -2.91 (-3.30, -2.52 95% CL). Of those patients, 52% reported at least a 50% reduction in anxiety. A total of 128 (pre-anxiety >3) reported a mean pre-anxiety 6.98 (2.03 sd) and an average anxiety decrease of -3.35 (-3.81, -2.89 95% CL). Of those patients, 51% reported at least a 50% anxiety reduction.

Conclusion: Our results indicate that acupuncture was acceptable and effective for pain and anxiety reduction and will inform design of future randomized trials.

O-16
THERAPEUTIC ALLIANCE BETWEEN PATIENT AND PRACTITIONER IS ASSOCIATED WITH ACUPUNCTURE ANALGESIA IN CHRONIC LOW BACK PAIN

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Introduction: Previous research provides compelling evidence that non-specific factors, such as patient/practitioner interaction, play an important role in acupuncture efficacy. One important factor may be therapeutic alliance, as perceived by the patient. We hypothesized that enhanced empathy and alliance influences the degree of analgesia experienced by chronic pain patients.

Methods: In a between-subjects design, chronic Low Back Pain (cLBP) subjects (N=22, 12F, age: 46.1 ± 12.1, ?±SD, back pain duration: 9.5 ± 8.2 years) were randomly assigned to one of three different forms of acupuncture treatment sessions, including 1)verum needle, 2)placebo needle, and 3)inactive laser acupuncture. Acupuncturists were trained to be neutral in their interaction with subjects throughout the treatment session. Low back pain intensity ratings were reported pre- and post-treatment (0-100 scale, anchors: no pain, worst pain imaginable). Upon conclusion of treatment, subjects completed the validated 10-item Consultation And Relational Empathy (CARE) questionnaire, designed to assess therapeutic alliance in treatment contexts (sample item: ''How was the doctor at being interested in you as a whole person?'' 1-5 scale, anchors: Poor, Excellent). It was explicitly stated to subjects that acupuncturists would remain blinded to responses and a sealed envelope was provided for confidentiality.

Results: A Pearson's correlational analysis demonstrated that change in low back pain intensity (post-tx–pre-tx) was negatively correlated with CARE scores (r = −0.39, p < .001) i.e. greater therapeutic alliance was associated with greater analgesia across acupuncture treatments, regardless of treatment group.

Conclusions: Our results demonstrate that across treatment type and despite intended patient-practitioner interaction neutrality, subjects' experience of analgesia was linked with their perception of being cared for with empathic understanding. This result suggests that enhanced therapeutic alliance is important for beneficial clinical outcomes and could complement standard acupuncture protocols.

O-17
TREATMENTS AND WEEKS NEEDED TO SHOW RESPONSE TO ACUPUNCTURE FOR MENOPAUSAL HOT FLASHES

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Purpose: To identify the number of acupuncture treatments (or weeks) needed to achieve a response to acupuncture for reducing menopausal hot flashes in a randomized trial.

Methods: Peri and postmenopausal women reporting an average of 4 or more hot flashes/day were recruited from the community and randomized to acupuncture (n=170) or a waitlist control group (n=39). The acupuncture group was allowed to receive up to 20 acupuncture treatments in the community over 6 months. The control group was followed for 6 months with no acupuncture treatment. The number and frequency of treatments received was determined by the participant and her acupuncturist. All women kept daily diaries of their hot flashes (recording frequency and severity) throughout the 6 months. Being a responder was pre-defined as achieving 35% reduction in hot flash frequency. Kaplan-Meier estimates were computed for both weeks and number of treatments to response.

Results: Among women in the acupuncture group, the median number of treatments to obtain response was 6 treatments, and the median time to response was 4.4 weeks. By the third treatment, 29% of women had showed a response, and by the 12th treatment, 76% responded. By week 26, 84% had achieved a response. In the control group, the median time to response was 21.6 weeks, and by week 26, 56% of women had achieved a response.

Conclusions: These findings can help inform expectations of clinical response to acupuncture in the treatment of menopausal hot flashes. In our study, approximately 50% of women experienced at least a 35% reduction in hot flash frequency after receiving 6 acupuncture treatments over the course of 4-5 weeks. The probability of having a response to acupuncture diminishes after 6 treatments.

Poster Abstracts

P-1
A CASE STUDY OF GULF WAR ILLNESS IN A WOMAN

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Background: Gulf War Illness (GWI) is a complex illness with multiple symptoms, including fatigue, sleep and mood disturbances, cognitive dysfunction and musculoskeletal pain. Symptoms are often severe in intensity and interfere with activities of daily life. People with GWI experience comorbid medical diagnoses, including chronic fatigue syndrome, fibromyalgia, irritable bowel syndrome, arthralgia, depression, and anxiety disorders. GWI has not been found to create a unique syndrome by sex (Shapiro, Lasarev, & McCauley, 2002); however, there is evidence of differential endocrine change by sex (Craddock et al., 2014). Little research has evaluated women's experiences of GWI; therefore, the purpose of this study is to evaluate one woman's symptoms and change over time during the course of receiving bi-weekly acupuncture care.

Methods: One female participant's chart notes were randomly selected. Thematic content analysis was employed to determine themes in symptoms and change over the course of 17 acupuncture treatments.

Results: This woman experienced at the first office call: back pain (main complaint), abdominal pain, depression, anxiety, temperature dysregulation, poor sleep, irregular menses, thirst, headache, fatigue, recurrent urinary tract infections, restless leg syndrome and floaters in her vision. Her differential diagnosis was KD Qi deficiency and LIV Qi stagnation. Over the course of treatment, her back pain was decreased and sleep, mood, memory and concentration improved. However, she had not had a menstrual period in seven months. Her differential diagnosis was relatively stable over the course of treatment, except the addition of HT, LIV and KD Yin deficiency, and LIV Yang rising.

Conclusions: Multiple systems are affected by GWI and biweekly treatment with acupuncture decreased several symptoms in this case. However, persistent endocrine dysregulation, evidenced by amenorrhea, indicates that ongoing acupuncture care might be beneficial. Ongoing imbalances of Yin, Yang and Qi indicate the level of severity of dysregulation in GWI.

P-2
A MULTIPLE CASE STUDY COMPARISON OF PTSD CHECKLIST RESPONSES OF VETERANS RECEIVING ACUPUNCTURE

Francis Yurasek, National University of Health Sciences; Cynthia Easter, Midwest College of Oriental Medicine; Daryll Daley, Midwest College of Oriental Medicine

A meta-study comparing PTSD Checklist (PCL) responses of veterans receiving acupuncture.

Statement of Purpose: The purpose of this multiple case study comparison of acupuncture treatments of veterans with Post-Traumatic Stress Disorder (PTSD) is to analyze their respective responses as reported in the 17-question PCL-M, used in the first two case studies, and the updated, 20-question PCL-5, utilized in the third case study.

Methods: In all cases the NADA auricular protocol, addressing Post-Traumatic Stress (PTS), was utilized along with body acupuncture methods addressing specific individual pain issues.

Summary of Results: The effects of acupuncture on veterans with PTSD were measured in two separate case studies utilizing the PTSD Checklist (PCL-M) in 2013 and 2014. Comparison of initial and follow-up treatment responses showed a global improvement of 32 and 72 percent over a 10- and 16-week period, respectively. A third case history utilizing the updated PTSD Checklist, the PCL-5, was conducted in 2015. The results showed a 10 percent improvement over a significantly shorter period of treatment.

Conclusions: The reduction in PTSD symptoms reported in two different PCL Checklists over intervals ranging from 4 to 16 weeks reflects consistent positive outcomes in the use of acupuncture treatment of veterans suffering from PTSD symptoms.

P-3
A MULTISITE INTERNATIONAL STUDY OF ACUPUNCTURE FOR TENNIS ELBOW - A PRELIMINARY ANALYSIS

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Acupuncture has been used for improving lateral epicondylitis. An international, multisite trial was conducted recently to assess the efficacy of acupuncture treatment for tennis elbow. The trial is called Tennis Elbow Acupuncture-International Study-China, Hong Kong, Australia and Italy, or TEA-IS-CHAI, and it involves four institutions (Changchun University of TCM, China; Hong Kong Baptist University; University of Technology, Sydney; and Istituto Paracelso, Rome) across four countries and regions with the World Federation of Acupuncture and Moxibustion Societies (WFAS) being the coordinator. After completion of a pilot study to determine the appropriateness of the trial design and sample size, a randomized, placebo controlled, patient and assessor blinded clinical trial with two parallel arms has been used to evaluate the efficacy of a standardized manual acupuncture intervention on lateral elbow pain (Tennis Elbow). Ninety-six subjects were divided randomly into two groups. In the treatment group (n = 47) patients received manual acupuncture for three weeks, with three treatments per week, whereas in the control group (n = 49) patients received inactive laser acupuncture for the same treatment frequency and duration as the treatment group. We evaluated pain and function outcomes using the disabilities of the arm, shoulder and hand (DASH) questionnaire, muscle tension test (MTT), pain

free grip strength (PFGS) and a visual analogue scale (VAS) for pain. The Massachusetts acupuncture sensation scale (MASS) was administered twice following the first and the last intervention session to measure needling sensation for both the acupuncture and control groups. Intervention credibility questionnaires were administered at commencement and at completion of the intervention phase to assess the credibility of the treatment. We found significant differences in DASH score, MTT and VAS between treatment and control groups. No severe adverse event was found. Results from this study have provided evidence for the use of acupuncture for LEP.

P-4
A NOVEL PLACEBO CONDITIONING BASED ON PARTICIPANTS' DECISION

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Background: Patients decide their own treatments in many of the real clinical situations. Thus patients experience reduced symptom and pain based on their actively made decision. However, conventional placebo conditioning associates less painful experience with a passively given cue.

Objective: Here, we investigated whether placebo response can be induced by conditioning less painful experiences based on patient's decision, not on passively presented visual cue.

Methods: We implemented a medical decision task which was a modified trust game. In the task, participants received a high pain (512 mN) by PINPRICK and made a decision of choosing a virtual treatment among two given options: taking medicine or being treated by a doctor. The decision to take the medicine was followed by moderate pain (256mN) to patients whereas the decision to be treated by doctor was followed by moderate (256mN) or mild pain (64mN) by the chance of 50%. Different monetary value was linked to the choice of both medicine and doctor, which also balanced the biased pain intensity. Participants reported relative intensity of the reduced pain to the original pain prior to making the choice. The task was repeated 40 times as a conditioning procedure. After conditioning, same task was repeated 8 times as a test, but instead of moderate or mild pain, high pain was always given.

Results: Participants reported significantly less pain when they chose doctor or medicine compared to control. The amount of reduced pain in the choice of doctor was greater than that of medicine.

Conclusion: Participants' active decision-making associated with less painful experience induced placebo response. This novel way of placebo conditioning might resemble real world situation more than the conventional conditioning methods.

P-5
A NOVEL PROTOCOL COMPARING ACUPUNCTURE TO USUAL CARE FOR OVERACTIVE BLADDER IN ELDERLY WOMEN

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Purpose: This research in progress is looking at a regimen of acupuncture versus usual care (medication) for the common problem of overactive bladder (OAB) in an older female population. The protocol for this project is described.

Methods: This study utilizes a one-way crossover design allowing half the patients to receive medication and acupuncture and the other half to receive only acupuncture. All subjects will be assessed at baseline and followed monthly for 4–6 months to assess duration of acupuncture effects, and inter- and intra-group variability. The primary outcome measure is a 3-day voiding diary, assessing urinary frequency and urgency and type and severity of urinary incontinence. The voiding diary will be completed at baseline and every four weeks during each arm of the trial and for two months post-intervention. Subjects will complete weekly and monthly questionnaires assessing symptoms, quality of life and side effects. In this preliminary non-inferiority trial we will estimate the magnitude of treatment difference for patients assigned to acupuncture versus medication. We will also estimate inter- and intra-patient variability of urinary frequency and incontinence.

Results: The primary outcome will be improvement from baseline in number of voids in a 3-day period and improvement from baseline of leaking episodes in a 3-day period (urinary frequency and incontinence). This will allow for a robust repeated measure design.

Conclusions: Research looking at the effects of acupuncture on other women's health issues, such as dysmenorrhea or menopausal symptoms, has occasionally included standard therapy as the control, but this has not been done in the slim body of OAB research. This project will directly compare acupuncture with medical therapy using a design that is similar to trials in which a new medication is compared to the standard therapy. In this way the outcomes will be more easily comparable to the current literature.

P-6
A PILOT STUDY OF LASER ACUPUNCTURE TREATMENT FOR BREAST CANCER RELATED LYMPHEDEMA

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Background: Breast cancer related lymphedema (BCRL) is a treatment toxicity associated with surgery or radiation treatment for women with breast cancer. Laser acupuncture is a technique that instead of needling, using low-level laser to stimulate acupuncture points.

Objective: We conducted a pilot study to evaluate the feasibility of laser acupuncture to treat chronic upper-limb lymphedema for women after surgery for breast cancer.

Methods: This is an open-label single arm trial. We enrolled 14 women with stage I-III breast cancer and with a clinical diagnosis of BCRL. Participants received He-Ne laser radiation on ten certain acupoints twice a week for 6 weeks. The acupoints prescription includes 10 acupoints. Six are on the affected arm: HT1, LI15, LU5, PC3, LU4, SJ2. Two are on the lower limb of the same side: SP9, ST36 and two are on the abdomen: CV6, CV9. Each acupoint was radiated for 5 minutes. Affected arm circumference was measured before and after the treatment. Paired t-test was used to evaluate pre-post differences.

Results: All the patients completed the study. There were no adverse events and no infection or severe exacerbations during 12 treatment sessions. The affected arm circumference before

(1282.14±71.57mm) and after treatment (1269.86±71.95mm) was statistically significant (P<0.01).

Conclusions: Our pilot study suggest that laser acupuncture is safe and potentially effective for BCRL. This preliminary data requires the justification of a randomized controlled trial of adequate sample size to evaluate the safety and efficacy of laser acupuncture for BCRL.

P-7
A PILOT STUDY ON ACUPUNCTURE TREATMENT FOR MANAGEMENT OF BURNING MOUTH SYNDROME

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Abstract of a pilot study on acupuncture treatment for management of burning mouth syndrome.

Aim of the study: Burning Mouth Syndrome (BMS) is an idiopathic condition characterized by chronic burning sensation of intraoral soft tissue. A neuropathological basis for BMS has recently been proposed, suggesting an oral dysesthesia or painful neuropathy. This pilot study has been conducted to investigate the safety and efficacy of acupuncture in treatment of BMS patients.

Methods: Twelve patients with BMS, were selected from the Oral Medicine clinic. Acupuncture treatments were administered weekly for ten weeks. Their pain visual analog scale (VAS) were marked before and after 30 minutes of acupuncture. All patients received the same acupuncture points at GB2, LI4,11,20, liver3, K6, P6,Sp6, St36, Ren 24, TE2, TE5 and ear Shen men, plus other points depending on their different burning oral locations, neck pain patterns, and body constitutions. Patients were also asked to fill a VAS-poor rest form, describing their experience of restfulness for the past 5 days before their visits.

Results: VAS data collected before and after treatment at the 1st, 3rd, 5th and 9th sessions were calculated. With the increase frequency of acupuncture treatments, the correlation between the reduction in burning pain VAS scale and the improvement of the poor rest VAS scale was observed. For the pain VAS, we observed the improvement score of 36.6% at the 3rd, 51.51% at the 5th, and 75.36% at the 9th treatments. In the poor-sleep VAS scale, there were the improvement score of 32.85% at the 3rd, 45.90% at 5th, and 52.73% in the 9th treatments.

Conclusions: Acupuncture could be an effective modality for the treatment of BMS conditions in patients that are using multi-medication for BMS, depression and xerostomia without satisfactory outcome. Further investigation with a larger population should be considered.

P-8
A PILOT STUDY ON CHINESE MEDICINE AND ACUPUNCTURE IN ALLEVIATING SIDE EFFECTS DUE TO CHEMO/RADIO-THERAPY ON 37 CANCER PATIENTS

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A prospective clinical study of Chinese Medicine in alleviating side effects due to Chemo/Radio-therapy on 37 cancer patients, particular focused on chronic fatigue syndrome, which is the purpose of this study. No restriction placed on sex, age, race, type & stage of the cancer. The five subjective symptoms were fatigue, pain, nausea, anxiety, depression were monitored based on the 0-10 numerical scale and verbal scale set by the NCI. The patients had to receive at least 8–12 weeks treatment or longer. The final data were collected prior and after the treatment course as to statiscally calculate to arrive at a P value. The P value for fatigue was <0.0001, which was very significant, the other four except depression also yield good result. Patients recieving CT/RT mostly suffered from depletion of Yin & Xue, Qi & Yang. The basic herbal formula comprised of six herbs (Astragalus, Ligustici Lucidum, Chinese Yam, Raw Rehmania, Ophiopogonus, Dogwood Fruit), in addition herbs added based on each patient's CM diagnostic pattern. Severe debilited cases, Gonoderma or Cordyceps could be added to strengthen the immune system. The acupuncture points were selected based on CM diagnostic pattern. This paper has shown that 1) CM Fu-Zheng therapeutic strategy could enhance the host's natural defense mechanism as a BRM: 2) clinical trail have indicated the CM treatment could reduce the side effects of CT and RT, thereby improved their quality of life; 3) integrating CM with WM in the treatment of cancer could improve the long term survival rate and reduce the recurrence of cancer. CM and WM should compromise and complement with each other while not conflicting with each other. The future for cancer treatment should be "Integrative Oncology" or "Comprehensive Cancer Care."

P-9
A PILOT STUDY: ACUPUNCTURE FOR ADDICTIVE DISORDERS MANAGEMENT

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1. Purpose of the study: Addiction management is a challenging affair for many countries. This is especially prominent in the South-East Asian communities, as addiction is known to be a stigma to most and treatment for addiction management is often limited. Acupuncture offers a drug-free supplementary treatment with low side-effects, which may increase patients' engagement in treatment and possibly enhance recovery. The Acupuncture Clinic was set up to provide an integrated program for substance and behavioral addictions. The aim of the study is to offer an unconventional adjunctive treatment to patients battling addictions. Through the study, we also hope to understand the patient group which would best benefit from the acupuncture treatment and the factors contributing to better treatment outcomes.

2. Outline of the methods used: To date, the Acupuncture Clinic has seen 65 patients, with an average age of 45 years old, from different races, namely, Chinese, Malays, Indians and Caucasians. Alcohol addiction patients form the bulk of the patient base, followed by substance and gambling addictions. Patients were administered acupuncture on the scalp, ears and limbs. All were assessed at the baseline, in between, upon completion of the ten-session treatment programme and three months after the first acupuncture treatment, through a series of questionnaires.

3. Summary of the results: Preliminary findings reported some positive feedback, such as better sleep quality, mood improvement and better control over their cravings. Further observations on the sustained effect of acupuncture needs to be elucidated.

4. Conclusion: Based on the findings and patients' feedback, acupuncture is beneficial for the management of addictive disorders.

P-10
A SIMPLIFIED 3-HERB TOPICAL FORMULA FOR SWELLING CONTROL AND PAIN RELIEF INCREASES BLOOD PERFUSION MEASURED WITH LASER DOPPLER FLOWMETRY

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Herbal formulas for musculoskeletal injuries are common topical remedies in Traditional Chinese Medicine. We have previously found that a novel formula containing only 3 herbs (Rhei Rhizoma, Carthami Flos, Dipsaci Radix) is effective in decreasing pain and swelling in a clinical study. In the present study, we investigated its effect on blood perfusion measured as "Flux" with laser Doppler flowmetry. A dozen healthy college students were the subjects. Flux was first measured with a Moor DRT4 instrument at an acupoint (SJ 5, SJ6) to establish a baseline, and then a 3x3 cm cotton patch soaked with a concentrated paste-like extract of the 3 herbs was placed on the point. After the specified time, the patch was removed, residual herbal material cleaned off with an alcohol swab, and Flux was measured again. While treatment with the 3-herbal formula had only a marginal effect at 5 minutes, it produced a 20–50% increase in Flux at 30 minutes, going up to 2-5 fold at 60 minutes. By comparison, a commercial "Dit Da Jow" liniment also containing Carthami Flos as one of many ingredients produced a similar effect as the 3-herb paste at 5 minutes, but the effect did not increase further at 60 minutes. On the other hand, a Western over-the-counter remedy containing 0.15% Capsaicin and another containing 4% Camphor, 10% Menthol, and 30% Methyl Salicylate both increased Flux by several fold at 5 minutes. In conclusion, the increase in blood perfusion induced by the 3-herb formula could be associated with its capacity to reduce swelling by increasing the discharge of fluid remaining in the interstitial space and producing pain relief. This perfusion effect is in addition to our previous finding that the 3 herbs also improve bone healing and angiogenesis, and decrease inflammation based on in vivo and in vitro assays.

P-11
ACHIEVING OPTIMUM THERAPEUTIC OUTCOME: A PRACTITIONER'S PERSPECTIVE

Anh Phung, AACMA

Achieving optimum therapeutic outcome: a practitioner's perspective. Acupuncture is the ancient Chinese Medicine being practiced for a thousand years for the treatment of various physical conditions. In acupuncture therapy, needles are inserted into selected acu-points to re-settle the energy flow into its right balance. In acupuncture, once an optimal stimulation or optimal qi-sensation is generated in connective tissues, it could lead to maximum therapeutic outcomes. There are number of limiting factors that could affect optimal qi-sensation and subsequently therapeutic output; these factors are (i) formulating a right target-treatment plan (ii) a right dose of acupuncture treatment. Unfortunately, literature on this subject is inadequate. This paper will reflect my understanding of acupuncture treatment based on over 40 years of my practice to achieve maximum therapeutic outcome. For an acupuncture professional, it is important to differentiate a direct health issue from an indirect problem. Secondly, it is critical in a treatment plan to know what needs to be targeted: a muscle, a nerve or a hormone. Last but not the least; a right acupuncture dose should depend on the accurate needle thickness, precise needling time, and optimal needle (insertion) depth. Further, therapists also consider tailoring treatment plan for every individual patient and treatment because of their distinctness from others.

P-12
ACUPUNCTURE AND DEPTH: FUTURE DIRECTION FOR ACUPUNCTURE RESEARCH

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The research on acupuncture has increased steadily over the years and regular review and revision of the direction of future acupuncture research is necessary. This paper aims to review and explore the significance of acupuncture depth in modern acupuncture research. Searches conducted in Science Direct and China Net of Knowledge Infrastructure (CNKI) databases were conducted and reflected a lack of focus on depth of acupuncture. We propose that the research trends of acupuncture should progress to the depth of insertion. It is suggested that future acupuncture research, especially randomized controlled trials (RCTs), should take into consideration the depth of insertion. Comparison between databases using different language of medium suggests the need for international collaboration of researchers from the same field. It is also crucial to inherit and innovate Traditional Medicine (TM) through modern technology. The use of bibliometric method is also suitable for development of TM research trends. Acupuncture and depth should be considered as one of the future direction of acupuncture research.

P-13
ACUPUNCTURE AND FIBROIDS

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Acupuncture and Fibroids discusses the efficacy of Traditional Chinese Medicine (TCM) in treating fibroids, socio-cultural implications of the disease, and sociological factors that cause patients to choose TCM vs. allopathic medicine for fibroid treatment and management. Fibroids can cause ovarian dysfunction, infertility, bladder problems, and can often lead to hysterectomy for women who do not have access to more expensive, less invasive treatment options. With the numerous other maladies that may be concomitant with fibroids, it is

imperative that we discuss alternative therapies and their relation to treating or managing the disease. This academic study draws upon anthropological and epidemiological theory and applies them to empirical data. It discusses the current Western and acupuncture treatments for fibroids and illustrates the physical and financial benefits of acupuncture in treating the disease and preventing hysterectomy.

The current state of research regarding alternatives to invasive surgery includes investigations into embolization and ablation therapies. However, there has been little evaluation of acupuncture's effectiveness in (1) removing/decreasing fibroids, or (2) managing the symptoms or secondary illnesses with which fibroids are associated. What's more, the studies that do address TCM's role only suggest that the data is inconclusive. Acupuncture and Fibroids consists of a compilation of extant empirical data demonstrating TCM as a complete system of medicine. To that end, this paper explores the differences between curing, treating, and managing the disease and acupuncture's role in each case.

In its discussion of culture and TCM, this paper also investigates the role that background and social status play in whether African American women choose to include TCM as a treatment modality.

By examining the cultural dichotomy between TCM and Western Medical Gynecology, this research will forefront the effectiveness of acupuncture in treating myomas and managing patient well-being.

P-14
ACUPUNCTURE AS AN ADJUNCT FOR CONVENTIONAL BREAST CANCER THERAPY: A CASE STUDY

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Background & Objective: Breast cancer is the most prevalent cancer amongst the female population of the US and will develop in one out of eight American women. Over half of cancer patients turn to CAM therapies as some or all of their treatment with women with breast cancer turning to CAM more than other cancer patients. Acupuncture has been shown to be effective for a wide variety of cancer-related symptoms, both physical and mental/emotional. This case follows a 30-year-old woman with a diagnosis of Stage 2 ductal Her2+ ER+/PR+ breast cancer and her acupuncture treatments from just after diagnosis and before chemo-therapy through a complete chemo-therapy treatment round, subsequent double mastectomy, reconstructive surgery and post-treatment wellness visits for a total of 2 ½ years. This case report might serve as a model for how breast cancer patients may elect to coordinate a combination of integrative therapies and conventional care.

Methods: Patient was treated with traditional acupuncture according to TCM diagnosis. Both physical and emotional symptoms were reported and addressed. Treatments during chemo and surgery periods were weekly and then every 2–4 weeks after Western treatments concluded as time allowed.

Results: Acupuncture treatments were well tolerated. Patient was able to work full-time throughout her treatment regimen and was able to keep every scheduled chemo treatment. Minimal medication was taken with pain meds only utilized immediately after mastectomy and reconstructive surgeries and only one dose of nausea medication taken during the entire course of treatment. Post mastectomy biopsy was negative. TCM wellness treatments following conventional cancer treatments continued for 1½ years until patient relocated and was referred to another acupuncturist.

Conclusion: Acupuncture was a safe and effective adjunct for conventional oncology therapies. More research should be conducted to determine how CAM and specifically acupuncture benefits the overall outcomes of oncology cases.

P-15
ACUPUNCTURE AUGMENTATION OF HEALTH PROMOTION IN WOMEN WITH MULTIPLE SCLEROSIS

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Background: Emotional stress has been found to exacerbate neurological symptoms and modulate immune function in people with Multiple Sclerosis; it negatively impacts the functional limitations, impairments and wide disparity of symptoms that are strongly associated with a poorer disease trajectory.

Purpose: To explore the feasibility of providing weekly group acupuncture treatments targeted at reducing stress delivered in conjunction with a previously validated 8-week Health Promotion Intervention (PWW-MS). The aim is to engage women with MS in assessing their present health behaviors, setting meaningful goals for change, and addressing the barriers, resources, and skills necessary to change those behaviors.

Methods: Fourteen women (mean age 54) with a physician verified diagnosis of MS participated in eight weekly small group acupuncture sessions (3-4 participants). Treatments were performed just before or just after a series of educational and skills building 90-minute classes. After conducting an acupuncture assessment, all participants received standardized treatment using high impact points to address stress and support the general clinical presentation of our cohort: Lv 3, LI 4, P6, Ht 7, St 36, Sp 6, Kd 3(bilaterally), Yintang, Du 20 and auricular Shenmen, Point Zero and Sympathetic. Points were needled with even stimulation until obtaining ''de qi''. Electro stimulation with continuous wave, 4 Hz was applied to St 36 and Sp 6. Needles were retained for 30 minutes.

Results: Paired t-tests were used to examine change over time in scales measuring stress, MS-related fatigue, anxiety, depression, pain, and sleep (PROMIS). There were statistically significant changes in self-reported fatigue, stress, depression, pain, and sleep (p < .05) from pre- to post-test.

Conclusion: Combining acupuncture with a health promotion intervention in a small group setting seems promising in reducing stress and improving the quality of life of women with Multiple Sclerosis. More research is clearly needed.

P-16
ACUPUNCTURE DOWNREGULATES HOUSE DUST MITE SPECIFIC IGE AND SUBSTANCE P AND IMPROVES SYMPTOMS AND QUALITY OF LIFE IN ADULTS WITH PERSISTENT ALLERGIC RHINITIS

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Background: A growing body of clinical evidence suggests that acupuncture improves symptoms in persistent allergic rhinitis, but the physiological basis of these improvements is not well understood.

Purpose: A randomized sham-controlled trial of acupuncture for persistent allergic rhinitis (PAR) in adults was undertaken, to investigate possible modulation of mucosal immune responses and changes in symptoms and quality of life.

Methods: 151 subjects were randomized into three groups: real acupuncture, sham acupuncture and no acupuncture. Both acupuncture groups received twice weekly treatments for eight weeks. The primary outcome measures were changes in cytokines, neurotrophins, pro-inflammatory neuropeptides, immunoglobulins and other inflammatory biomarkers in saliva or peripheral venous blood plasma from baseline to four weeks after treatment. Secondary outcomes were measures of nasal airway resistance, symptoms and quality of life scores throughout this period.

Results: Statistically significant reduction in allergen-specific immunoglobulin E (IgE) for house dust mite was seen only in the real acupuncture group, from 18.87 ± 9.91 to 17.82 ± 8.01 kU/L (p = 0.035). Statistically significant down-regulation was also seen in pro-inflammatory neuropeptide Substance P (SP) 18 to 24 hours after the first treatment from 408.74 ± 299.12 to 90.77 ± 22.54 pg/ml (p = 0.039). No significant changes were seen in the other neuropeptides, neurotrophins or cytokines. Symptoms and quality of life (Qol) scores improved significantly with ongoing improvement at four weeks follow-up. These symptomatic and Qol changes appeared to be associated with reduction of house dust mite specific IgE, but not with decreases in SP.

Conclusion: Acupuncture appears to be effective for adults with PAR through down-regulating house dust mite-specific IgE. Further studies are needed to confirm this finding.

P-17
ACUPUNCTURE DOWNREGULATES INFLAMMATION

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Statement of Purpose: The cytokine theory of disease suggests that by down-regulating inflammatory expression by the vagus nerve, cytokine production is diminished. Vagus nerve stimulation inhibits TNF, Il-1. IL-6, IL-8. Health is a delicate balance between the autonomic nervous system and cytokine production; over-production of cytokines and over-activation of the sympathetic nervous system can result in critical and severe disease. This theory suggests that acupuncture enhances vagal tone, positively affecting the cholergenic anti-inflammatory pathway.

Outline of Methods: As acupuncturists with many years of clinical experience we have treated many patients who we regard as 'sympathetic driven'. This led to a systematic review of diseases that are now regarded as having a sympathetic component. We reviewed ten studies, indicating that there is a sympathetic component driving inflammation in many diseases. The most recent research indicates activating vagal stimulation can effectively treat rheumatoid arthritis. Using the 'if, then' causal method, we reviewed twelve studies that demonstrate that acupuncture can enhance vagal tone.

Summary of Results: This review of the literature and analysis of the findings indicates that there is good evidence that acupuncture, both electrical and manual, enhances vagal tone, suggesting that acupuncture is an effective treatment for low to moderate immune inflammation.

Statement of Conclusion: More research is needed to corroborate that acupuncture is an effective method to inhibit run away cytokine production. By investigating endpoints corresponding to low vagal tone and the inflammatory response, this hypothesis is worthy of further evaluation that would result in a controlled pilot study.

P-18
ACUPUNCTURE ELICITS NEUROPROTECTIVE EFFECT BY INHIBITING NAPDH OXIDASE-MEDIATED REACTIVE OXYGEN SPECIES PRODUCTION IN CEREBRAL ISCHEMIA

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In the current study, we aimed to investigate whether NADPH oxidase, a major ROS-producing enzyme, was involved in the antioxidant effect of acupuncture on cognitive impairment after cerebral ischemia. The cognitive function, infraction sizes, neuron cell loss, level of superoxide anion and expression of NADPH oxidase subunit in hippocampus of two-vessel occlusion (2VO) rats were determined after 2 weeks of acupuncture treatment. Furthermore, the cognitive function and production of O2− were determined in the presence and absence of an NADPH oxidase agonist (TBCA) and antagonist (Apocynin). The effect of acupuncture on cognitive function after cerebral ischemia in gp91phox-KO mice was evaluated by Morris water maze (MWM). Acupuncture reduced infarct size, attenuated overproduction of O2− and reversed consequential cognitive impairment and neuron cell loss in 2VO rats. The elevations of gp91phox and p47phox after 2VO were significantly decreased after acupuncture treatment. However, no differences of gp91phox mRNA were found among any experimental groups. Furthermore, these beneficial effects were reversed by TBCA, whereas Apocynin mimicked the effect of acupuncture by improving cognitive function and decreasing O2− generation. Acupuncture failed to improve the memory impairment in gp91phox KO mice. Full function of the NADPH oxidase enzyme plays an important role in neuroprotective effects against cognitive impairment by acupuncture via inhibition of NAPDH oxidase-mediated oxidative stress.

P-19
ACUPUNCTURE FOR CHRONIC SHOULDER PAIN: A 2×2 FACTORIAL RANDOMIZED CONTROLLED TRIAL

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Objective: To assess the effects of acupuncture at local points, distal points or both on chronic shoulder pain.

Methods: 164 participants with chronic shoulder pain were randomly assigned to receive acupuncture at local points in combination with distal point; acupuncture at local points in combination with distal non-point; acupuncture at local non-points in combination with distal point or acupuncture at local non- points in combination with distal non- point for 12 treatments over 6 weeks. Primary outcome was shoulder pain intensity (visual analogue scale). Secondary outcomes included functions of shoulder joint (Constant-Murley score), health-related quality of life (Short form-36). In addition, perceived credibility of acupuncture was measured by Treatment Credibility Scale. Outcome measures were collected at baseline (before randomization), 6, 10 and 18 weeks after randomization.

Results: There was no interaction between local points and distal points. Compared with no distal points, distal points were associated with improvement in pain intensity at 10 (p=0.024) and 18 (p=0.013) weeks. Distal points were better than no distal points at 6 (p=0.01), 10 (p=0.006) and 18 (p=0.01) weeks for shoulder functions. Distal points improved physical health at 10 (p=0.023) and 18 (p=0.015) weeks, and 18 (p=0.05) weeks for mental health. No statistically significant differences were observed between local points and no local points for all outcome measures.

Conclusions: These findings show that acupuncturists can support acupuncture in adults with chronic shoulder pain, and distal point provides an effective method.

P-20
ACUPUNCTURE FOR LUMBAR SPINAL STENOSIS: A PILOT RANDOMIZED TRIAL

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This study aimed to assess the overall effectivenss, safety and feasibility of acupuncuture for participants with symptomatic lumbar spinal stenosis (LSS). Fifty participants with low back or leg pain for over 3 months all of whom had been radiolgically confirmed as having LSS, were randomly allocated to an acupuncture combined with usual care group or a usual care alone group. The usual care group was provided with simple physical therapy (i.e., heat pad and interferential current therapy) as required, and maintained their usual self-management. Participants in the acupuncture group were offered twelve to16 sessions of manual acupuncture with optional electrical stimulation over six weeks and maintained usual self-management. The primary outcome was changes in back-specific functional status, as measured by the Oswestry Disability Index at 3-month follow-up. Secondary outcomes included pain and bothersomeness of low back and leg, quality of life, self-reported pain-free walking distance, participant-perceived improvement and satisfaction, use of other healthcare resources and adverse events at post-treatment and at the 3-month follow-up. We had intended to blind outcome assessors, although this was not done in actual study process. Thirty-nine participants (78%) competed the trial with 524 treatment visits. There was no between-group difference in primary outcome (mean difference 2.0; 95% CI −4.5, 8.6). Secondary outcomes showed no significant differences, although trends favoring the acupuncture group were found in some of symptom-related outcomes. The total number of adverse events was 61. All but one were minor and transient. One patient was hospitalized with unknown reason after the completion of 12 acupuncture sessions.

Acupuncture combined with usual care did not provide significant benefit compared with usual care alone. Observed favorable trends in symptom reduction may justify further randomized trials with adequate sample size and outcome assessor blinding. Full results will be available at the conference. Trial registration: NCT01987622

P-21
ACUPUNCTURE FOR MEMORY PERFORMANCE

Reginaldo Silva Filho, EBRAMEC; Marcia Cantero, EBRAMEC

Introduction: Memory is an organism's mental ability to store, retain and recall information and the physiological mechanisms are poorly understood, but brain areas such as the hippocampus, the amygdala, the striatum, or the mammillary bodies are thought to be involved. Auricular acupuncture is probably the most studied acupuncture microsystem and is to be able to influence the mental and emotional state of patients.

Aim: Verify the hypotheses that auricular acupuncture can influence the performance of human memory.

Methods: 31 patients were randomly allocated in 3 different groups, Group A (10) with ear acupuncture, Group S (11) with ear seed pressing, and Group F (10) with sham points. For evaluating the impact on the memory performance it was selected an adapted form of WISC numerical test.

Results: Both real groups presented better results when compared with Group F, with sham points, but Group S, with only seed pressing was the one with the best results.

Conclusion: Auricular Acupuncture presents itself as an excellent therapeutic method for a large variety of conditions and this study demonstrates that it can also be considered for memory

problems. Further research with better and larger studies, using a more rigorous method and a better evaluation instrument are necessary to determine the effectiveness of this technique.

P-22
ACUPUNCTURE FOR PAIN AND NAUSEA IN AN ICU: A FEASIBILITY STUDY IN A PUBLIC HOSPITAL

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Purpose: Emerging evidence supports the use of acupuncture in conventional medical centers, especially for treating pain and nausea. This feasibility study aims to understand the acceptability, and practicality of providing acupuncture to patients with pain or nausea in an Intensive Care Unit (ICU).

Methods: Patients admitted to the ICU at Highland Hospital in Oakland,California, able to communicate clearly, were recruited to receive acupuncture in addition to usual care. Those who reported nausea and/or pain within the previous 24 hours and met medical criteria were enrolled. Acupuncture treatment included a Traditional Chinese Medicine diagnosis and eight-point needling treatment. Surveys collected before and after each treatment documented patient pain and/or nausea levels and overall experience. Medical records are being evaluated to establish length of stay, pharmaceutical use, APACHE score, and hourly changes in reported pain.

Results: Between November 2, 2014, and March 9, 2015, 40% of 137 eligible patients were recruited. 39 patients received acupuncture, and 26 completed the full three-day course. Currently 20 exit surveys are complete. From these, 17 reported acupuncture reducing pain and nausea, while the remaining 3 stated no preference. When asked whether the participant would recommend acupuncture to friends and family, 11 strongly agreed, four agreed, two held no preference, and two reported strong disagreement. Interestingly, nearly half (9/20) of the participants independently described reduced feelings of anxiety and improved relaxation following acupuncture. Information on length of stay, changes in medication dosing, and APACHE prediction comparisons are pending medical record review at this time.

Conclusions: Acupuncture is a feasible treatment option for alert patients in the ICU. In addition to relieving pain and nausea, acupuncture may relieve patient anxiety and encourage relaxation. Further research is needed to explore the patient perspective and acupuncture's efficacy for relieving pain and nausea and improving patient experience within an ICU.

P-23
ACUPUNCTURE IN THE TREATMENT OF NASAL CONGESTION DUE TO A DEVIATED SEPTUM – A CASE REPORT

Wei Ling Huang, Medical Acupuncture and Pain Management Clinic

Aim: To demonstrate that Auricular Acupuncture was a good and safe technique in the treatment of nasal congestion due to a deviated septum, and can be considered as another form of treatment together or not with the treatment accepted nowadays or before a possible surgical procedure.

Case report: J.A.D., 50, appeared for an appointment with nasal congestion in his left nasal passage especially on cool days. Two years before he had been to an otorhinologist for a throat problem with frequent infections which worsened during cold weather. He was prescribed allopathic medicine, one of which was penicillin G benzathine for six months without producing the desired effect. He was given medicine for acid reflux which also was to no avail. He was then recommended to a gastroenterologist and tested for acid reflux obtaining negative results. He looked for another otorhinologist who diagnosed a deviated septum, and recommended surgery. His brother had undergone acupuncture treatment, and told him to try it before doing any kind of surgery. He began his acupuncture treatment with two sessions a week, and showed improvement from the beginning. The overall results were excellent. His treatment began in the winter, and he noticed that his nasal congestion rapidly disappeared, which was very different from previous years when during the winter he was severely congested especially on the left side. The points used were LI4 bilateral; LI11 and LI20 only on the left side. The auricular points were Shen-Men; Liver; Spleen; Lung; Large Intestine; Occiput; Nasal; on the left ear.

Conclusion: In this case report, we can show that the use of acupuncture for the treatment of nasal congestion due to a deviated septum is effective, and could be another kind of treatment besides those recommended by the actual literature.

P-24
ACUPUNCTURE RESEARCH FOR MIGRAINE AND TENSION-TYPE HEADACHE: WHOM IT SERVES TO?

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Introduction: After Cochrane reviews for migraine and tension-type headache in 2009, acupuncture received the endorsement of Evidence-Based Medicine. It would be expected that the subsequent researches addressed aspects such as ''what are the best type of acupuncture?'' or ''what are the best points to be used?'' as acupuncturist practitioners all over the world are eager to know. Therefore, our main question is that: Has this kind of research ever been done since then? We analyze qualitatively publications between 2010 and 2014 to find answers for this question.

Methods: Pubmed searched using the keywords ''electro-acupuncture'' OR ''electro-acupuncture'' OR ''acupoint*'' OR ''acupunctur*'' OR ''percutaneous electrical nerve stimulation'' AND ''migraine'' OR tension-type headache''. Limits: ''English language'' and ''trials.'' We considered: country of the research, journal published, study design, style of acupuncture, number of patients, extension of treatment and outcomes.

Results: Sixteen studies were concerned to migraine and only one study addressed tension-type headache. Six came from China, three from Italy, and two from Taiwan. Brazil, Germany, India, Iran, South Korea, and Sweden contributed with one study each. The number of patients ranged from 30 to 480 (median = 80). Two studies had four arms comparing different prescription of points, two studies had three arms but only one of them compared groups of points, and twelve studies had just two arms, most comparing acupuncture with ''sham'' or acupuncture versus drug. Only two of these studies compared two acupuncture treatments.

Discussion: Most research in acupuncture for migraine and tension-type headache continue the formulae: ''is acupuncture effective for these diseases?'' There are few concerns about the best choice of points, the best style, and the length of treatment,

as well as predictive factors, which could contribute to the success of outcomes.

Conclusion: More research is necessary to find out the best ''acupuncture'' for migraine and tension-type headache.

P-25
ACUPUNCTURE TREATMENT EFFECT ON THE OXIDATIVE STRESS

Reginaldo Silva Filho, EBRAMEC; Michele Sampaio, EBRAMEC; Eduardo V Jofre, EBRAMEC

Introduction: One of the mechanisms related to disorders in the body is the action of free radicals. They are fought by antioxidants, acquired mainly through food and endogenous synthesis. When the production of free radicals is greater than the capacity of the antioxidants the result is oxidative stress and, consequently occur cell death, loss of proteins, changes in the genes, general disorder, disease and aging.

Objective: Verify if acupuncture can reduce the oxidative stress, providing improvement in quality of life.

Method: The present study was conducted as a blinded, randomized controlled trial. 31 volunteers were randomically assigned to 3 different groups: -Group I: Real treatment group with body (ST36, SP6, KI3, LV3 and Yintang) and ear acupoints (endocrine, subcortex, Lung, Kidney, Liver Shenmen, Ear apex). -Group II: group with points away from the real acupoints in the body and ear. -Group III: Control group. All volunteers had their blood samples collected in four moments, where group I and II received acupuncture twice a week and group III just came for the blood to be collected. Oxidative stress was assessed by determining the MDA (product of oxidation of lipids), whose technique was described by Satoh, et al. (1979), and nitric oxide, the main kind of reactive nitrogen, through the technique described by Ding, et al. (1988).

Results: There was a very significant improvement in Group I both in reducing lipid peroxidation as nitric oxide. In Group II there was also an improvement, but not significant as in Group I. In the control group, all samples showed basically the same level without improvements or worsening.

Conclusion: We observed a great improvement in the Group I. Even with this positive result, we recommend that further studies should be conducted with better method and larger samples, so that a better evidence can be achieved.

P-26
ACUPUNCTURE VIEWED HOLISTICALLY CAN TREAT ALL PATIENTS' DISEASES SIMULTANEOUSLY - A CASE STUDY

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Aim: The aim of this case study is to demonstrate that treating the energy imbalances of Yin, Yang, Qi and blood during the acupuncture treatment and not only the symptoms, we can inadvertently treat other diseases that the patient had not mentioned.

Case Report: V.S., 76, male, Negroid, sought acupuncture for pains in his legs in August 2006. He also presented constipation and felt cold in his limbs. According to Traditional Chinese Medicine, the clinical diagnosis was blood and kidney Yang deficiency. He had ten sessions, twice a week, of auricular and systemic acupuncture to correct the energy imbalances. The auricular points used were Kidney - to correct Yin and Yang, Liver

and Lung to produce and make the Qi circulate, Spleen to tone blood production, Large intestine to improve bowel movement and release toxins, and Occiput to reduce the invasion of pathogenic wind. The systemic points used were E36 plus Bp6 to improve blood production, LV3 to maintain the circulation of Qi, R3 plus R7 to enhance the Kidney Yang, and LI4 plus LV3 to open the four gates. His leg pains improved greatly, so he stopped the treatment. After a month, he returned for re-evaluation, and was still better, and said his ophthalmologist told him his intraocular pressure (IOP) had surprisingly returned to normal, which had never occurred before. It had gone from 40 to 17 mmHg. His ophthalmologist had asked what he had been doing recently, and he answered that he had been doing only acupuncture.

Conclusion: Through this case study, treating the patient's energy imbalances and not only his symptoms with acupuncture treatment, not only the disease can be treated, but other diseases at the same time which often had not been revealed by the patient.

P-27
ACUPUNCTURE WITH RECTUM AURICULAR POINT BLOODLETTING IN THE TREATMENT OF HEMORRHOIDS – A CASE REPORT

Wei Ling Huang, Medical Acupuncture and Pain Management Clinic

Case Report: A.M.B., 50, appeared with pains in his legs and soles. He related that from 2003 to 2005, he had an anal fissure, and treated himself with analgesics and hemorrhoid creams, to the point where the pain was intolerable, and sought medical help, resulting in a cauterization operation.

However a small lump of blood always appeared near the location of this cauterization after he had a bowel movement twice a day, and he bathed it in hot water pressing it with his fingers to burst it and letting the blood flow out. Despite the pain, he gained relief which made his day bearable. Initiating his acupuncture treatment, he started to notice that his pains improved and the lump or stinging sensations disappeared after the first session, and did not reappear.

The auricular acupuncture points used were: Apex ear and Rectum point bloodletting, Shen-men, Kidney, Liver, Spleen, Large Intestine, Hunger point, Lung, Occiput, Endocrine, Neurasthenia, Anxious Point. Mustard seeds were used, fixed two at a time with tiny square pieces of adhesive tape (0.7cm). The patient must press each tape or point for one minute three times a day, and they were replaced every 7 days.

Systemic points used were CV4, CV6, ST25, CV17, using a steel needle measuring 0.30×40mm, and maintained for 15 to 20 minutes in each session. Dry needling was used on the trigger-point in the calf region and both lower medial sides.

Conclusion: In this case report, we were able to show that the use of acupuncture for the treatment of hemorrhoids is effective, and could be an option of clinical treatment for the patients before the recommendation for surgery improving the quality of life of the patient without him losing time in recuperation after an operation.

P-28
ADDITIONAL EFFECTS OF BACK-SHU ELECTROACUPUNCTURE AND MOXIBUSTION IN CARDIOPROTECTION OF ISCHEMIA-REPERFUSION INJURY IN RAT MODELS

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Purpose: Electroacupuncture (EA) on PC6 can significantly protect rat hearts against ischemia-reperfusion (IR) injury but few studies have explored ways to increase these effects. The purpose of this study was to maximize attenuation of IR injury by combining three treatment modalities that are known to act via different mechanisms: standard EA, EA on back-shu points, and moxibustion.

Methods: 24 rats were divided into 5 groups consisting of a control group, placebo group, EA group, EA + back-shu (B) group, EA + B + moxibustion (M) group. All of the treatment groups received 30 min of EA on PC5, PC6, ST36, ST37 for 5 days, the EA + B group received additional treatment on BL14, BL15 and the EA + B + M group received further treatment with moxibustion on PC6. Infarct size was measured using triphenyltetrazolium chloride, fibrosis was assessed by masson's trichrome histochemistry, function was analyzed using transthoracic echocardiography and heat shock proteins were measured by western blotting.

Results: Myocardial injury was diminished in all three treatment groups as seen from the lower infarct area relative to the total area (EA, $8.90 \pm 7.13\%$; EA+B, $7.93 \pm 2.95\%$; EA+B+M, $10.89 \pm 2.40\%$). However, the infarct size of the EA + B group and EA + B + M group was not significantly smaller than the EA group. Measurement of other parameters also revealed that there were significant differences between the placebo group and the treatment groups but no further differences among the three.

Conclusion: Additional treatment on back-shu points and moxibustion did not significantly decrease the infarction size. However, this was the first study to hypothesize the possible synergistic effects of treatment methods that work through different pathways, and it is necessary to continue to explore other treatment strategies to help facilitate transition onto clinical trials. Future options available are investigating acupuncture treatment with pharmaceuticals.

P-29
ALTERED RESTING STATE CONNECTIVITY INDUCED BY VERUM AND PHANTOM ACUPUNCTURE STIMULATION

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Purpose: The aim of this study was to investigate differences in the resting state connectivity between verum and sham acupuncture stimulation using functional connectivity MRI (FcMRI), and also to evaluate the somatosensory stimulation effects of the acupuncture in brain connectivity from their difference.

Methods: 17 healthy subjects participated in two psuedo-randomized acupuncture sessions, verum (ACUP) and phantom (PHNT) acupuncture on the same day. During the ACUP session, acupuncture was applied at ST-36 and the needling manipulation was video-recorded. Subjects were instructed to focus their attention on the videoclip simultaneously displayed. For PHNT session, subjects watched the prerecorded videoclip from the previous ACUP session of their own or other subjects. There was no actual needling manipulation, but the videoclip was replayed to create an illusion of needle insertion/stimulation instead of giving the real acupuncture. Before and after the acupuncture session, two 6-minute resting state data were collected for both of ACUP and PHNT. Functional MRI data were acquired using T2*-weighted pulse sequence on 3.0T MRI System (Philips, Achieva, Best, Netherland). FcMRI data were analyzed using dual regression independent component analysis on four resting scans. Intrinsic connectivity networks of interest included brain networks thought to underlie the sensorimotor and visual processing. Subsequent group analyses were performed using paired t-tests.

Results: Sensorimotor network (SMN) demonstrated greater connectivity to posterior insula in ACUP, as well medial visual network (MVN) and lateral visual network (LVN) showed greater connectivity to S1 and M1.For PHNT, SMN demonstrated less connectivity to S1, and LVN showed greater connectivity to medial cingulate cortex.

Conclusions: The ACUP stimulations enhances MVN and SMV connectivities to brain areas known to play a role of somatosensory integration and discriminative processes. On the other hand, the PHNT stimulations enhances LVN connectivities to medial cingulate cortex, which seems to be related with attention or emotion process.

P-30
ANALYSES OF THE IMMEDIATE EFFECT OF AURICULOTHERAPY IN THE AUTONOMIC NERVOUS SYSTEM

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Background: Acupuncture has been investigated under neurophysiological by the modern science. However little research in this context in its microsystems such as auriculotherapy. There are points with recommendations of possible calming effects and other revitalizing consecrated by more practical experience than based on scientific research.

Objective: Assess the immediate influence on the autonomic nervous system (ANS) by stimulating with auricular acupuncture by heart rate variability (HRV).

Methodology: A total of 11 healthy subjects, male 18–28 years (mean 23.36 ± 3.10) initially forming a auriculotherapy placebo group (ATPG) and after a week called auricular test group (ATG). It was stimulated with semi-permanent needles 1.5mm headset points, shem men and sympathetic in GAT and the control was the eye's point in the ATPG for having no relations with the ANS. During 15 minutes, in a single session.

The search consisted of three phases: rest, intervention and recovery, with specific times. The signals were collected by the heart rate monitor Polar S810i ® and analyzed by Continuous Wavelet Transform (TWC). Results: In the ATG was an increase in the predominance of the sympathetic nervous system and a decrease in parasympathetic demonstrated changes in SNA by observing statistically significant differences between the phases of the protocol. In ATGP there was no statistically significant results between phases of collection of signals.

Conclusion: The ear acupuncture stimulated with semi-permanent needles 1.5mm in points shem men and sympathetic was able to cause changes in the SNA, with a predominance of the sympathetic nervous system.

P-31
ATTITUDES TOWARD ACUPUNCTURE AMONG PAIN MEDICINE FELLOWSHIP DIRECTORS

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Objectives: The purpose of this survey was to evaluate attitudes towards acupuncture among pain medicine fellowship directors. Additional goals were to assess the availability of acupuncture at academic medical centers and ascertain the inclusion of this modality in fellowship curricula.

Methods: Electronic and paper surveys were distributed to the 97 American College of Graduate Medical Education pain medicine fellowship directors during January and February, 2014. Directors were queried about their perceptions of the utility of acupuncture for common pain conditions, and their referral patterns to acupuncture. They were asked about the availability of acupuncture at their institution, and whether acupuncture was included in the fellowship curriculum.

Summary of results: Sixty-seven percent of fellowship directors (65/97) completed the questionnaire. A majority of directors (83%) reported acupuncture is available to patients at their institution, and reported that acupuncture is a modality that they discuss with patients when creating a treatment plan for chronic pain (72%). The majority of programs include acupuncture as part of didactic (63%) and clinical (52%) education. Time constraints, lack of qualified teaching personnel, and cost to patients were cited as barriers to inclusion. The majority of fellowship directors considered acupuncture a safe and worthwhile option for common pain conditions.

Conclusion: Results from this survey indicate that acupuncture is widely available to patients at academic medical centers, integrated into many pain fellowship curricula, and considered a useful modality by physician leaders in the field of pain medicine. This sentiment, paired with the flexibility of national guidelines for pain fellowship curricula, suggests a trend towards greater inclusion of this modality in academic medicine.

P-32
AURICULAR ACUPUNCTURE FOR SPINAL CORD INJURY RELATED NEUROPATHIC PAIN: A PILOT CONTROLLED CLINICAL TRIAL

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Purpose: Our purpose was to assess the effectiveness of an auricular acupuncture protocol termed Battlefield Acupuncture (BFA) using semi-permanent needles in chronic SCI related neuropathic pain.

Methods: Pilot randomized delayed entry clinical trial of BFA in chronic (> 1 year) AIS A through D SCI individuals with injury level from C3 through T12 and below level neuropathic pain. Twenty-four subjects were randomized to either an eight-week once weekly ten-needle BFA protocol (n = 13) or to a waiting list followed by the BFA protocol (n = 11). The primary outcome measure was the change in the pain severity numeric rating scale (NRS).

Results: Demographically there were no significant differences between groups except for level of education. Mean pain scores at baseline were higher in acupuncture than control subjects (7.92 ± 1.61 vs. 6.25 ± 1.04, P = 0.017). Although both groups reported significant reduction in pain during the trial period, the BFA group reported significantly more pain reduction than the delayed entry group (average change in NRS at eight weeks − 3.23 ± 2.3 vs. − 1.13 ± 1.81, P = .041), which was also reflected in the significant group-by-time interaction in the mixed-effect model (P < .01).

Conclusions: This pilot study has provided proof of concept that BFA has a clinically meaningful effect on SCI below level neuropathic pain.

P-33
AURICULOACUPUNCTURE IN THE TREATMENT OF TENSIONAL CERVICALGIA: STUDY OF CASES

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Background: The tensional cervicalgia is an organic and functional disorder caused by repetitive work, increasing the static muscle load, is characterized by pain in the neck and shoulder region, contracture of cervical-thoracic muscles with trigger points, pain on palpation of the cervical motion limitation. The acupuncture has demonstrated analgesic efficacy in various diseases, however it is necessary to further research with non invasive materials.

Objective: To evaluate the analgesia by auriculoacupuncture in tensional cervicalgia.

Methodology: The study was experimental clinical, with 15 volunteers of both sexes, aged between 10 and 54 years (mean of 34.13 ± 9.46 years) with pains cervical of tensional origin for more than 6 months. Seed of Vacária in auricular points was used : Shem men, sympathetic nervous system, kidney, muscular relaxation, analgesia, subcortex, cervical vertebrae and neck. The treatment consisted of 4 sessions once a week. Pain was assessed by visual analog scale (VAS) and McGill Inventory before the first and after the last sessions. Results: There was a mean reduction in pain reported by volunteers by the 81.79% while the VAS scores recorded in McGill Inventory fell from an average of 43.6 before treatment to 7.73 at the end of treatment.

Conclusion: Analgesic efficacy was the intervention of the auriculoacupuncture in the treated volunteers. We recommend the technique for treatment of tensional cervicalgy.

Keywords: auriculoacupuncture, tensional cervicalgy, pain.

P-34
BLOOD PRESSURE: HYPOTENSIVE EFFECT OF BLEEDING AT THE BRAIN REFLEX POINT – REPORT OF CASES

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Hypertension before and during a dental procedure, especially surgical, is under the influence of many factors like psychological stress and the physical action of the catecholamine in local anesthetics. Common complications of hypertension include hemorrhage and increased risk of stroke and high cardiac workload. Auriculotherapy points may be stimulated by seeds, needles and lancets, the latter used to cause bleeding. This method has several indications among which is the reduction of blood pressure levels, especially in emergencies. The objective of this study was to investigate whether the auricular bleeding method causes immediate change in blood pressure levels in individuals undergoing dental surgery. Six patients presenting with preoperative hypertension participated in this research study. A puncture was performed with lancet needles, followed by firm finger pressure aimed at drawing a small amount of blood from the auriculotherapy point known as brain reflex, in the pinna. After that bleeding, the blood pressure was checked again and its values were recorded in the patient file. All patients showed an immediate hypotensive effect after auricular bleeding, enabling surgery and proving this study significant on the subject matter. All data evidenced the effectiveness of using of the auricular brain reflex point to decrease blood pressure, in a situation of anxiety and preoperative stress of this study.

Blood pressure was decreased immediately after the technique was performed, which is a remarkable result. Auriculotherpy has shown to be an excellent technique for emergency care in cases of hypertensive crises.

P-35
CHARACTERISTICS OF ACUPUNCTURE PATIENTS ATTENDING A UNIVERSITY CLINIC – RETROSPECTIVE DATA ANALYSIS USING AN EHR SYSTEM

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Background: It is important to collect characteristics and complaints of patients who are accessing a reduced fee-for-service and compare them to other studies. The Health Information Technology for Economic and Clinical Health (HITECH) Act, a component of the American Recovery and Reinvestment Act of 2009, recommends adoption of EHRs to improve patient care, care coordination, increase patient participation and improve patient diagnosis and outcomes. However, its use within an acupuncture practice has not been explored.

Purpose: To describe the patient characteristics seeking acupuncture at a University based integrative health center and to identify the usefulness of EHR in retrieving such data.

Methods: Data on patient age, gender, occupation, referral source, presenting complaints, and number of visits were retrieved using Visual Outcomes®, an electronic health record software. Data between September 2014 and February 2015 was retrieved retrospectively for this study. The EHR system allows data mining using queries and creates reports to fulfill the users' requirements.

Results: A total of 2037 patients sought acupuncture care and a majority of these are women in the middle age ($\sim$40s). A total of 5179 patients visits were recorded. Most of the referrals were from patient friends, students and employees of the university, local physicians belonging to insurance companies. The most common presenting complaint is pain and other neuro-musculoskeletal conditions followed by internal conditions.

Conclusion: Patient characteristics are similar to other studies. Retrieval of data using an EHR system is an efficient method in terms of time and effort. However, the output depends upon the input as in any form of retrospective data retrieval. It would be beneficial to know the type of patients who seek acupuncture based on TCM diagnosis and also understand the herbal prescription patterns of practitioners.

P-36
CHARACTERISTICS OF ACUPUNCTURE USERS BY NUMBER OF TREATMENTS COMPLETED

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1. To examine characteristics of adults who used acupuncture only once, more than once, or completed a therapeutic course of acupuncture (6 + visits) in the past year. 2. We used population-based data from the 2012 National Health Interview Survey (NHIS), the most current nationally representative data including acupuncture utilization. Our target population was adults in the United States (unweighted n = 34,525; acupuncture users n = 572). We used logistic regression to estimate the odds of: 1) using acupuncture versus not, 2) 2 + acupuncture visits versus one, and 3) completing a therapeutic course of acupuncture versus minimal acupuncture (1-5 visits). Covariates included demographic, socioeconomic, and need based factors including insurance coverage for acupuncture. Analyses accounted for the complex sample design (e.g., unequal probability of selection, stratification, clustering). 3. Approximately 1.5% of adults used acupuncture in the past year; of those, 22% of users had a single visit and 40% reported therapeutic use (6 + visits). Median out-of-pocket cost was $40 per visit. More education, less poverty, poor self-reported health and being female were associated with greater odds of acupuncture use. College graduates had 4.1 times the odds of acupuncture use compared to those with < high school (95% CI 2.6-6.4, p < 0.001). Among adults who used acupuncture, both education and insurance coverage for acupuncture were associated with 2 + visits versus one. However, only insurance coverage for acupuncture was associated with therapeutic use versus minimal use (OR = 2.2; 95% CI 1.3-3.7, p = 0.004). 4. The acupuncture profession has grappled with delivering care at low enough cost to facilitate adequate treatment frequency for socioeconomically diverse patients, given uneven insurance coverage for acupuncture. Similar to previous studies, we found that acupuncture tends to be used by those with greater social advantage. Policymakers should consider that without insurance coverage for acupuncture, users are less likely to complete sufficient visits to indicate a therapeutic course of acupuncture.

P-37
COMPARING THE EFFECTS OF TAI CHI, QIGONG, AND YOGA ON THE COORDINATED FLOW OF BLOOD AND ELECTRICITY

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In certain repetitive Tai Chi exercises, the cyclic down/up hand-arm movements have been found to cause coordinated cycles of increase/decrease in the flow of blood and electricity measured at acupoints on the hand. Here we compared such exercises with those from Qigong and Yoga. A dozen healthy individuals of college age were the subjects. Blood perfusion/flow (LDF) was measured as "Flux" at PC8 on the palm with laser Doppler flowmetry (Moor DRT4) and electrical flow (AMI) was measured as pre-polarization conductance at LU1 on the thumb with a continuous recording AMI Life Energy Analyzer (from CIHS) using Motoyama's single square voltage pulse method. Chen style Tai Chi's Silk Reeling, Sum Yi Qigong's Big Eagle Spreading Wings, 5 Animal Frolic's Tiger Pouncing, and Yoga's Warrior, Sun Salutation, and Flying Chair performed with normal breathing and mental concentration at 3-6 cycles/minute all increased the average flow of blood by 1-2 fold during the exercises compared to baseline. The size of the peaks produced by the different exercises was similar, ranging from 60-100 LDF and AMI arbitrary units. The coincidence of the AMI peaks with the LDF peaks was in the 90–100% range for all of the exercises. The results of this study indicate that while there were some differences in measurements among the different exercises, the overall pattern of effects on the flow of blood and electricity previously seen with Tai Chi exercises can be generalized to other forms of mind-body practices. The blood flow changes are caused by gravitational pull on the blood in the hand as its level decreases/increases relative to the heart, and this effect is accompanied by corresponding changes in electrical flow measured at acupoints, consistent with the belief in Traditional Chinese Medicine of a close relationship between blood and Qi.

P-38
CONSIDERATIONS ABOUT THE METHODS TO RECORD NEEDLE SENSATION

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In recent years, researchers have paid much attention to the relationship between deqi and acupuncture effect. Evaluation of deqi is an important aspect of those studies. Most researchers choose scales or questionnaires to record needle sensation. However, the methods to record needle sensation are still lack of a comprehensive display. This research focused on the methods to record needle sensation based on relative literatures at home and abroad. The number of acupoints, unilateral or bilateral of acupoints, and times of needling are involved into the records. Some investigators recorded needle sensation on each point, while others regarded the general needle sensation on all points as a whole to record. Some investigators recorded the sensations separately when bilateral acupoints of the same name were used, while others regarded bilateral acupoints of the same name as a whole to record the needle sensation. Some investigators recorded needle sensation at each time of needling, while others chose the general sensation of several treatment sessions to record. How to record the needle sensation is the premise and basis for deqi assessment. It should cautiously consider more involved factors when the needle sensation is recorded, such as numbers of points, unilateral or bilateral acupoints, and times of needling, so as to provide more reliable and actual data for assessing deqi and its intensity and then to improve the accuracy of quantitative study on deqi.

P-39
CORRELATIONS IN DEMOGRAPHIC TRENDS AND PATIENT PRESENTATIONS SEEN IN AN INTEGRATIVE COMMUNITY CLINIC FEATURING ACUPUNCTURE, CHIROPRACTIC, HEALTH COACHING, MASSAGE THERAPY, AND PSYCHIATRY

Valerie Overby, PI

1. The purpose of this study was to investigate the following key questions: a) Who are the people we are treating? What key demographics are represented? b) What are the chief complaints patients are presenting? c) What was our integrative treatment plan and approach? What were the outcomes and trends seen in an integrative community clinic that offered free care to underserved communities? 2. Retrospective review of patient files, randomly sampled from 2011–2015. 3. A wide variety of ethnicities and age groups have been seen throughout the last four years, yet the vast majority are seeking relief from chronic pain. The next major patient complaint is mental health/stress where the minority are seeking care for internal medicine or general care. Throughout various treatment plans that included acupuncture, chiropractic, health coaching, massage therapy and psychiatry, it was acupuncture that was utilized more frequently in conjunction with intermittent chiropractic and counseling services (both health coaching and psychiatry). Massage therapy was a popular treatment approach recommended, yet due to lack of therapist available to schedule, this modality was under prescribed and underrepresented in the overall summary. 4. Our summary finds that a high percentage of people seen in our integrative community clinic are not receiving regular care or have consistent access to healthcare, due to lack of insurance or the ability to pay. Within this population base, the vast majority are initially coming into the clinic seeking pain relief and pain management. Over time, and through the course of our integrative approach, the focus shifts from pain management to incorporate other whole body system approaches, such as a greater willingness to incorporate healthy approaches to mental health and lifestyle, to reach quality of life goals.

P-40
DATA MINING ACUPUNCTURE LITERATURE FOR THE TREATMENT OF DIABETIC GASTROPARESIS

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Background: There are many causes of gastroparesis with the most common known cause being longstanding type 1 and type 2 diabetes mellitus. Impaired vagal control has been reported as the reason of delay in gastric emptying of diabetic gastroparesis (DGP). While there are several treatment modalities for DGP, acupuncture has demonstrated that it can play a complementary role.

Objective: The goal of this study was to data mine the Chinese medical literature for investigating acupuncture treatment of DGP. With this information we want discover trends in how this treatment is implemented and to identify those techniques that are most commonly used.

Methods: Using CNKI and VIP literature databases, we have searched the Chinese medical literature for DGP treatment by acupuncture from 1999 to 2014. The clinic trials data were merged with an acupuncture database for sorting through and identifying the origin of meridians for each acupuncture point. The frequency of acupuncture point usage and the contribution weight in each acupuncture prescription were measured in this study.

Results: There were 92 qualified papers that collected from 139 papers in this study. 55 acupuncture points identified in the treatment of DGP that involved 12 meridians. The top used meridians in frequency and in cumulated contribution weight was Ren(78/92 and 29.38). Up to 27 acupuncture points have been used as primary acupuncture points. The acupuncture point Zhongwan (RN12) had the highest frequency of usage (76/92) and Zusanli (ST36) had the highest total contribution weight of 20.31. Of the clinical trials included in the study, 54% used acupuncture as the only method of treatment. The remaining studies used a combination of acupuncture, western medicine and other techniques.

Conclusions: Using this database and data mining technology will provide an effective tool to collect and analyze acupuncture methods and efficacy for the treatment of DGP.

P-41
DEVELOPMENT OF A HEART RATE VARIABILITY MONITORING PROTOCOL FOR CLINICAL ACUPUNCTURE USE

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Introduction: Heart Rate Variability (HRV), a noninvasive autonomic monitoring method, has been applied to acupuncture interventions in controlled academic studies exploring individual acupoints as well as various stimulation types and HRV parameters. Longer term HRV data collected over weeks to months from actual acupuncture patients is scarce, however. There is evidence that acupuncture can decrease the stress response within minutes, as measured by HRV. Indeed, there are some studies that suggest an intra-treatment increase in HRV, representing a relaxation response, correlates with positive clinical outcomes.

Objective: The objective in developing this protocol is to explore HRV as a biomarker for successful acupuncture treatment. Establishing the most relevant time frames to measure and compare, which HRV parameters (nonlinear or linear) are most significant and which available equipment is most practical are some of the challenges to developing this protocol.

Methodology: Patients presenting to the clinic with various clinical conditions received manual body acupuncture sometimes with electroacupuncture or auricular acupuncture needling. HRV was measured for 5 minutes before treatment and then throughout the treatment session including needle placement. Different needling prescriptions and stimulation types were compared retrospectively as a function of HRV values.

Results: In most patients, an increase in HRV measured in the first 5 minute compared to the second 5 minute segment of treatment correlated best with clinical response as well as stress reduction (sleep quality and mood). Low Frequency/High Frequency ratio is the simplest measure in gauging the HRV response, but other parameters such as the SD1/SD2 ratio from the Poincare plot, DFα1, and Sample Entropy (all nonlinear parameters) added valuable information.

Conclusion: HRV measurements can be made reliably and reproducibly in the acupuncture clinic. Their clinical relevance as a biomarker for successful treatment, and relevance to needling technique is still unclear and will be discussed.

P-42
DIFFERENT FREQUENCIES OF ELECTROACUPUNCTURE IN PATIENTS WITH DIABETES

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Introduction: Diabetes is a chronic metabolic disease that has a significant impact on the health, quality of life, and life expectancy, as well as on the health care system. Exercise, diet, and weight control continue to be essential and effective means of improving glucose homeostasis.

Objective: Observe the acute effect of different frequencies of electroacupuncture on the blood glucose (BG) level in diabetic patients.

Method: 44 voluntary were randomly assigned to groups. I: Real 02Hz; II: Real 15Hz; III: Real 100Hz; IV: Real 02Hz-100Hz (dense disperse); V: control (wait); VI: SHAM 100Hz. All groups received electroacupuncture on SP8 (Diji) and ST36 (Zusanli) bilaterally, except group V (waiting group) and group VI, where the needles were inserted 5cm away from the real point. All patients had their BG measured before and after 15 minutes of stimuli or wait.

Results: I: all patients reduced the BG, average $-23,34$ mg/dl; II: all patients reduced the BG, average $-19,37$ mg/dl; III: all but 1 (increase of only 1 mg/dl) patients reduced the BG, average $-1,12$ mg/dl; IV: all patients reduced the BG, average $-15,84$ mg/dl; V: 6 out of 8 patients increased the BG; VI: 6 out of 8 patients increased the BG.

Conclusion: Electroacupuncture presented as an interesting option for reducing BG in diabetic patients. The present study

was not intended to measure the long time effect of acupuncture but the acute effect. Thus we recommend further research with better and more rigorous method.

P-43
DOES "DEQI" SENSATION IMPACT THE THERAPEUTIC EFFECT OF ACUPUNCTURE: PROTOCOL FOR A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS

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Introduction: To examine the effect of ''Deqi'' on clinical efficacy of acupuncture according to the currently relevant randomized controlled trials (RCT).

Methods & Analysis: RCTs which employed comparison between acupuncture with and without Deqi sensation for a specific disease will be included. Trials compared different types or degree of Deqi sensation with same acupuncture program will also be included. Nine electronic databases will be searched from their inception: No limitation for age, gender, and type of conditions of participants. Two authors will screen the literatures and critically appraise the selected papers independently. A third author will be available to resolve any disagreement. Data extraction and methodological quality assessment of included studies will be undertaken following the detailed descriptions described in the Cochrane Handbook for Systematic Reviews of Interventions. Primary and secondary outcomes will be defined regarding to the type of conditions. Risk ratios (RR) for dichotomous outcomes and mean differences (MD) or standard mean differences (SMD) for continuous outcomes, with 95% confidence intervals (CI) will be performed. We will carry out meta-analysis for specific outcomes if no significant clinical and statistical heterogeneity was detected among trials. Statistical heterogeneity will be detected by $I2$ test, meta-analysis will not be conducted if $I2 \geqq 75\%$. If data permits, we plan to conduct subgroup analyses with a minimum of two trials for different groups split by gender; penetrating single point or points; type of Deqi sensation to assess whether the treatment effects are different in different subgroups. The findings will be reported according to Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines.

Dissemination: The protocol of this systematic review will be disseminated in a peer-reviewed journal and presented at a relevant conference. Trial registration number: This protocol was registered in PROSPERO online registration system (No. CRD42013006749).

P-44
EFFECT OF ACUPUNCTURE ON WEANING INTENSIVE CARE UNIT PATIENTS OFF MECHANICAL VENTILATION

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Purpose: To evaluate the effects of acupuncture on weaning patients in the intensive care unit off mechanical ventilation.

Design: Retrospective observational study

Subject and Setting: Patients on mechanical ventilation admitted to the intensive care unit who received acupuncture to improve their respiratory condition.

Intervention: Four 10-minute sessions of acupuncture per week, mostly at the LU1, LI4, ST36, KI3, CV6, and CV12 points.

Outcome measurements: Tidal volume (TV), respiratory rate (RR), heart rate (HR), percutaneous arterial oxygen saturation (SpO2), and dynamic lung compliance (Cdyn) before and immediately after acupuncture treatment were extracted from medical records. The number of days and acupuncture sessions needed to wean a patient off mechanical ventilation after the initiation of acupuncture were also investigated.

Results: Twenty-six patients were included in this study. The mean number of days on mechanical ventilation before acupuncture was 28 ± 21. Ventilation parameters were as follows: FIO2, $35 \pm 8\%$; positive end expiratory pressure, 6.2 ± 2.1 cmH2O; and pressure support, 7.0 ± 2.1 cmH2O. TV and Cdyn increased significantly after acupuncture (mean difference [95% CI], 39.8 [28.2 to 51.5] ml, P < 0.001 and 6.4 [3.9 to 8.8] ml/cmH2O, P < 0.001, respectively). RR and HR decreased significantly (-2.3 [-3.5 to -1.2] breaths/min, P < 0.001 and -2.1 [-3.5 to -0.6] beats/min, P = 0.007, respectively). There was no significant change in SpO2. Twelve patients were weaned off mechanical ventilation after acupuncture was started. They received 5.0 ± 2.3 sessions of acupuncture over 9.7 ± 5.5 days. The increases in the TV and Cdyn was larger in patients who could be weaned than those who could not (15% versus 6%, P = 0.004 and 12% versus 6%, P = 0.006, respectively).

Conclusions: Acupuncture might have beneficial effects on respiratory function and help with weaning patients off mechanical assistance in the critical care setting.

P-45
EFFECT OF ELECTROACUPUNCTURE ON BEHAVIORAL CHANGES AND EXPRESSION OF AB IN HIPPOCAMPUS OF APP/PS1 TRANSGENIC MICE

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Objectives: To observe whether electro-acupuncture (EA) can promote the clearance of β-amyloid (Aβ) in Hippocampus of APP/PS1 transgenic mice and improve the learning-memory ability of APP/PS1 transgenic mice.

Methods: Thirty-two 6-month-old APP/PS1 transgenic mice were randomly divided into model group and EA group, with sixteen wild-type mice as normal control group. The Morris water maze was used to assess the spatial memory in behavior. Immunohistochemical staining was used to observe the expression Aβ1-42 in Hippocampus Enzyme-linked immunosorbent assays (ELISA) method was used to detect the expression of Aβ1-40 and Aβ1-42 in Hippocampus.

Results: The Morris water maze test showed that, compared with normal control group, the escape latency in model group was significantly increased, and the number of platform crossover and the swimming distance in platform quadrant of spatial probe test in model group were significantly reduced (P < 0.05, P < 0.01), while the escape latency in EA group was significantly decreased (P < 0.05). ELISA results showed that Aβ1-40 and Aβ1-42 in Hippocampus in EA group were significantly decreased than those in model group (P < 0.01).

Conclusions: EA therapy can improve the learning-memory ability of APP/PS1 transgenic mice, and the mechanism may be related to the decrease in the level of Aβ in Hippocampus.

P-46
EFFECTIVENESS OF ACUPUNCTURE AND ORIENTAL MEDICINE IN THE MANAGEMENT OF PAIN - A PROSPECTIVE COHORT STUDY

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Purpose: Compare first and fifth visit outcomes for patients seeking treatment for pain in a high-volume acupuncture and oriental medicine (AOM) teaching clinic.

Methods: Between Nov 2009 and Dec 2013 three PROMIS instruments–the Global Short Form, Adult Physical Function, and Adult Pain Interference—were administered to a cohort of consenting patients treated for pain at the OCOM intern clinic. Instruments were administered at visit 1 and again at visit 5. Patient demographics and changes in global physical and mental health, physical functioning, and pain interference were assessed.

Results: A cohort comprising 374 patients was analysed. Demographics were similar to those reported in other AOM clinics. The majority of patients were white females over the age of 50. Changes in mean scores from visit 1 to visit 5 for the four outcomes measures were as follows: Global Physical Health 12.68 to 13.68 (p < .05), Global Mental Health 13.74 to 13.77 (p = .79), Physical Functioning 37.94 to 40.11 (p < .05), and Pain Interference 18.40 to 14.55 (p < .05).

Conclusions: Statistically significant improvements in Global Physical Health, Physical Functioning and Pain Interference from visit 1 to visit 5 suggest that intern delivered AOM is an effective intervention for the management of pain. Future large-scale cohort studies are warranted, and should address pain outcomes related to particular AOM treatments and Chinese pattern diagnoses.

P-47
EFFECTIVENESS OF ACUPUNCTURE FOR MENOPAUSAL HOT FLASHES

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Purpose: To present results of a randomized effectiveness trial of acupuncture for reducing menopausal hot flashes and improving quality of life. Methods: Peri and postmenopausal women reporting an average of 4 or more hot flashes/day for 2 weeks were recruited from the community and randomized to acupuncture or waitlist control. The acupuncture group was allowed to receive up to 20 acupuncture treatments in the community over 6 months and was then followed for 6 additional months. The waitlist control group was followed for 6 months with no treatment and then allowed to receive up to 20 treatments after 6 months post randomization. For both groups, the number of treatments received was determined by the participant and her acupuncturist. All women kept daily diaries of their hot flashes (recording frequency and severity) throughout the first 6 months and completed one weekly diary/month thereafter. Outcomes included frequency of hot flashes, hot flash interference, and other symptoms. Results: A total of 209 women were randomized to the study and 184 completed the 6-month follow-up and 176 completed the 12-month follow-up. Women in the acupuncture arm received a median number of 19 acupuncture treatments. At 6 months, frequency of daily hot flashes decreased by 34.2% in the acupuncture group and increased by 3.3% in the control arm (p < .0001). The reduction in HF frequency was maintained at 30.6% decrease from baseline at 12 months (p < .0001). Similar results were found for the hot flash index. We found a significant treatment effect at 6 months for hot flash interference (p < .0001), sleep (p < .01), somatic symptoms (p < .0001), and memory (p = .0001) and these were maintained at 12 months. Conclusions: Acupuncture was effective in reducing frequency of hot flashes at 6 months and maintained at 12 months and had beneficial effects on hot flash interference, sleep, somatic symptoms, and memory.

P-48
EFFECTS OF A STANDARDIZED AURICULAR POINT PRESCRIPTION IN ADULTS WITH INSOMNIA

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Purpose: The purpose of this study was to determine the efficacy of a standardized auricular acupoint prescription in adults with insomnia and the associated treatment effects on quality of life (QOL).

Methods: This was a sham controlled, single blinded, randomized clinical trial with two groups. Repeated measures on outcome variables were taken at baseline, during the intervention, and post intervention. Twenty-two participants aged 50–70 years of age were recruited.

Measures: Sleep diaries measured sleep outcomes of total sleep time, sleep efficiency, and frequency of awakenings. The MOS SF12 and sleep diary measured QOL. The credibility of the sham device was measured with the Treatment Expectancy Questionnaire.

Results: The end-state functioning status of participants improved as seen in an increase in the number of good sleepers (SE ≥ 85%), lessening in the severity of perceived insomnia (ISI scores <14), and an overall improvement in QOL. The SF12 mental component also improved significantly in both

groups over time (p = .008) and was consistent with the improvements shown in QOL responses recorded in the sleep diary (p = .001). Regardless of treatment assignment, participants' subjective perception of mental health QOL improved post intervention and there were marginally statistically significant differences found in the frequency of awakenings that decreased regardless of the treatment assignment group over time. Findings did not support the efficacy of the protocol to significantly impact total sleep time or sleep efficiency.

Conclusions: This study did not provide conclusive evidence on the effectiveness of a standardized auriculotherapy protocol for older adults with sleep disturbances. However there were trends seen in the outcome measures that may be clinically significant and could translate to positive therapeutic benefits with minimal equipment and operational costs. Improvements in both groups may be attributable to the sham device being therapeutic instead of inert.

P-49
EFFECTS OF ACUPUNCTURE ON NEUROPATHIC PAIN: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objective: To critically assess the evidence for acupuncture in the treatment of peripheral neuropathy.

Background: In spite of multiple medical treatments available, neuropathic pain continues to pose great therapeutic challenges. While acupuncture has been gaining popularity for the treatment of multiple pain disorders, little is known about its effects on neuropathic pain.

Methods: We systematically searched the Medline, AMED, Cochrane, Scopus, CINAHL and clintrials.gov databases from inception to May 2013. Parallel and cross-over RCTs which assessed acupuncture's efficacy for any type of neuropathy, including mononeuropathy were reviewed. Trials were included if at least 1 group received acupuncture and 1 group - sham acupuncture or other control treatment. All included RCTs needed a SASQI-CAM quality score of >9. Individual patient data meta-analyses were conducted using 6 eligible RCTs, with a total of 680 patients analyzed.

Results: 15 publications met the inclusion criteria. The selected RCTs included acupuncture intervention for neuropathy caused by diabetes, bell's palsy, carpal tunnel syndrome, HIV and idiopathic conditions. No studies on chemotherapy or other toxin-induced neuropathy met the inclusion criteria. Acupuncture regimens and primary outcome measures differed among studies and various methodological issues were identified. Still, the majority of RCTs reviewed showed clear benefit for acupuncture over control in the treatment of diabetic neuropathy, Bell's palsy and carpal tunnel syndrome. Acupuncture is probably effective in the treatment of HIV-related neuropathy and there is insufficient evidence for its benefits in idiopathic neuropathy. Meta-analyses of all diabetic neuropathy and Bell's palsy data using a summary estimate random effects model showed combined Odds Ratio (OR) of 4.23 (95% CI 2.3-7.8), p < 0.001 favoring acupuncture over control for pain outcomes.

Conclusions: The majority of trials demonstrate a positive effect of acupuncture over control condition in the treatment of neuropathy. Further more rigorously designed studies are needed to better characterize this effect.

P-50
EFFECTS OF ACUPUNCTURE TREATMENT ON SPORTS INJURY OF COLLEGIATE ATHLETES IN JAPAN

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Introduction: Acupuncture is a popular complementary medicine for athletes to help control pain, hasten recovery, and treat injury. In the Athletic Training Room (AT Room) of Hosei University, acupuncture is performed for treating injuries and hastening the recovery of injured athletes, as well as for rehabilitation and physiotherapy. The purpose of this study is to report the effects of acupuncture therapy for collegiate athletes in the AT Room.

Methods: The subjects were collegiate athletes at Hosei University in Japan. The AT Room was opened from 5 pm to 8 pm twice a week from April 2013 to December 2013 for the treatment and therapy of athletes. The involved sports, injured part, and details of treatments were recorded. Acupuncture was performed for muscle injuries such as hamstring strain and lower-back pain.

Results: A total of 483 athletes used the AT Room. The involved sports were in the order of soccer (37%), track and field (21%), and handball (17%), etc. The injured parts were in the order of knee (15%), lower back and gluteus (15%), and shoulder (12%), etc. The treatments provided were in the order of partner stretching (19%), icing (17%), and therapeutic exercise (17%), etc. Acupuncture was performed in 73 athletes (6%). Many athletes used acupuncture, especially those involved in soccer and track and field, as well as other therapies. Concerning injured parts, acupuncture was used for injuries of the lower back and gluteus (29%), femur (22%), and knee (12%), etc. Electro-acupuncture therapy was the most frequently used therapy for athletes (97%).

Discussion: Acupuncture is a popular therapy for athletes in Japan. Few athletes used acupuncture compared with other therapies because there was only one acupuncturist in the AT Room. Nevertheless, it seems that many athletes desired receive acupuncture.

P-51
EFFECTS OF DIFFERENT PARTS OF MOXIBUSTION ON MITOCHONDRIAL ACTIVITIES IN APP/PS1 MICE

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Purpose: To determine the effects of two different parts of moxibustion, namely moxa smoke and heat, on mitochondrial activities (ATP, mitochondrial respiratory chain(RC) complexes I, II, III) of hippocampus in APP/PS1 male mice.

Methods: Ten wild-type C57BL/6 normal mice served as normal control while 40 APP/PS1 mice were randomly divided into 4 groups (n = 10/group), 1) traditional moxibustion, 2) heat only produced by a smokeless moxa, 3) moxa smoke and 4) no-treatment control. Treatments were given 20-min, 6 day a week for 8 weeks. In groups 1 and 2, the moxa stick was aimed above acupoint Guanyuan (CV4). In group 3, mice were exposed to moxa smoke (5 ~ 15mg/m3), while in groups 4 and normal

control, no treatment was given. Mice were sacrificed at the week 9. ELISA techniques was used to detect the level of ATP and activity of mitochondrial RC complexes I, II, III in hippocampus.

Results: Compared to ATP and mitochondrial RC complexesI and III in group 4 (0.1248 ± 0.0024; 0.1370 ± 0.0285; 0.0183 ± 0.0017), group 1 (0.1409 ± 0.0063; 0.4662 ± 0.0037; 0.0339 ± 0.0019), group 3 (0.1370 ± 0.0026; 0.3938 ± 0.0504; 0.0310 ± 0.0029) and group 2 (0.1345 ± 0.0022; 0.2639 ± 0.0220; 0.0271 ± 0.0029) all showed significant increase ($p < 0.01$; Fig, 1, 2 and 4). Both moxibustion and moxa smoke groups had higher activity in mitochondrial RC complexesI and III than that of moxa heat group ($P < 0.01$; Fig.2 and 4). The level of ATP ($P < 0.01$) was significantly increased in mice treated with traditional moxibustion as compared with that of moxa heat group (Fig. 1). However there was no significant difference between the 3 different moxibustion groups and the no-treatment control in the level of mitochondrial RC complexes II (Fig. 3).

Conclusion: Our findings suggest that different part of moxibustion plays equal role of anti-aging activity by increasing ATP level and protecting the function of mitochondrial in APP/PS1 mice.Further research is necessary to further investigate the mechanisms of different parts of moxibustion on mitochondria's function.

P-52
EFFECTS OF HAMA ANXIETY SCORE BEFORE MENSTRUATION ON DEQI INDUCED BY NEEDLING AT SANYINJIAO (SP6) WHEN DYSMENORRHEA ATTACKED

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Objective: To evaluate the effect of anxious mood before menstruation on deqi induced by needling at SP6 when dysmenorrhea attacked.

Methods: Total 68 patients with PD in cold and dampness stagnation pattern were included into our study. On the 3–7th days after the first menstruation period, the anxious status of patients a week before menstruation were evaluated by HAMA anxiety scale. On the day when abdominal pain attacked in the second menstruation period, patients were randomly divided into deqi (17) and non-deqi group (51) with a ratio of 1: 3. Deqi group were acupunctured by thick needle, deep insertion and some manipu-lation to achieve deqi. Contrary, non-deqi group were acupunctured by thin needle, superficial insertion and no manipulation to avoid deqi. The needles were removed after 30 minutes. Then, a 0-3 grade Deqi Assessment Scale was used to assess the real intensity of deqi. The relationship between HAMA anxiety score and deqi score was tested by Spearman correlation test. Chi-square test was applied to analyze the real deqi rate.

Results: In the effective 64 samples, deqi and the HAMA anxiety score were observed a significant negative correlation ($r = -0.299$, $P = 0.016$). According to the HAMA score, the patients were redivided into the anxiety and non-anxiety group. The cases of each group were counted and analysed. The result showed that there was an obvious difference between the two groups ($P = 0.044$), with the deqi rate in anxiety group (51.6%) was lower than that in non-anxiety group (75.8%).

Conclusion: The results suggested the lower of the HAMA anxiety scores, the higher of the deqi scores. Compared with patients in the anxiety group, it was easier to acquire deqi for the patients in non-anxiety group. Hence, we preliminary think that anxious mood before menstruation could affect deqi induced by needling at SP6 when dysmenorrhea attacked.

P-53
EFFECTS OF MOXIBUSTION ON ANXIETY-LIKE BEHAVIOR AND BRAIN-DERIVED NEUROTROPHIC FACTOR SIGNALING IN ALZHEIMER'S TRANSGENIC MICE

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Purpose: To investigate whether moxibustion treatment would ameliorate anxiety-like behaviors and change the levels of phosphorylated cAMP response element-binding protein(p-CREB), brain-derived neurotrophic factor (BDNF) in an amyloid precursor protein/presenilin 1(APP/PS1) transgenic mouse model of AD. Furthermore, the independent effects of moxibustion heat and moxa smoke would also be examined.

Methods: Thirty-seven APP/PS1 transgenic mice, were randomly divided into 4 groups: moxibustion, smokeless moxibustion, moxa smoke and no treatment control. Ten C57BL/6 mice were used for normal control. Moxa-stick moxibustion and smokeless moxibustion were performed on Guanyuan (CV4), while moxa smoke group were given no moxibustion but exposed to moxa smoke with a concentration of 10-15mg/m3. AD mice in no treatment control group and normal control group were handled everyday. All the treatment were applied 20 minutes per day, 6 days per week, lasting for 8 weeks. The mice were evaluated for anxiety by using a battery of tests, including the elevated plus-maze test (EPM), open-field test (OFT) and social interaction test (SIT) at the end of treatment. Then, the mice were sacrificed and the brains were harvested for immune-histochemical staining.

Result: The moxibustion and moxa smoke group were significantly altered in anxiety-like syndrome when compared with

no treatment control group by measuring percentage time spent in open arms and total number of arms entry in EPM. In OFT, the mice showed the similar manifestation by measuring frequency to central area and number of grid crossings. Comparing with the mice in no treatment control group, the other presented less attack and sniffing in SIT, and expressed higher levels of p-CREB and BDNF at hippocampus in immune-histochemical staining study.

Conclusions: The results suggest moxibustion treatment and moxa smoke exposure exhibit an anxiolytic-like effect in transgenic AD model mice, and furthermore the effect may be associated with the inhibition of p-CREB and BDNF.

P-54
EFFECTS OF PM10 IN MOXA SMOKE ON VIABILITY IN A549 LUNG ADENOCARCINOMA CELLS AND BRONCHIAL EPITHELIAL CELLS

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Purpose: Moxibustion is a traditional Chinese medicine therapy in which moxa floss is burned on or near the surface of acupoints. The main products of moxa combustion are particulate matter (PM10) which has attracted the public's attention toward the safety of moxa smoke. Based on the previous research, this study was undertaken to determine the effect of PM10 in moxa smoke on viability in A549 lung adenocarcinoma cells and bronchial epithelial cells.

Methods: Both A549 and BEAS-2B cells were cultured in 96-well plates (1.0×105 cells/well) and treated with PM10 in moxa smoke, cisplatin or PM10 in cigarette smoke at different concentrations, including 0,40,60,80 and $100\mu g/ml$. Cells viability was evaluated using the colorimetric MTT (3-[4,5-Di-methylthiazol-2-yl] 2,5-diphenyltetrazolium bromide). The outcomes of cells survival rate were compared between different concentrations in every treatment group. Then the differences between three treatment groups were also studied.

Results: Viability of A549 cells in moxa smoke group was significantly lower ($p < 0.05$) than cigarette smoke group when the PM10 concentrations were 60, 80 and $100\mu g/ml$. Compared with cigarette smoke group, BEAS-2B cells treated by moxa smoke at every concentration showed higher viability ($p < 0.05$). As for cisplatin group, cells viability was significantly lower ($p < 0.05$) than moxa smoke group in other concentration except $100\mu g/ml$ group as well.

Conclusion: Our findings indicate the PM10 in moxa smoke can inhibit A549 cells proliferation and has less toxic on bronchial epithelial cells BEAS-2B than PM10 in cigarette smoke and cisplatin.

P-55
EVALUATING THE NATIONAL ACUPUNCTURE DETOXIFICATION ASSOCIATION PROTOCOL TO IMPROVE QUALITY OF LIFE FOR PROSTATE CANCER SURVIVORS

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Purpose: The five-point NADA (National Acupuncture Detoxification Association) protocol has demonstrated benefit for hot flashes experienced by prostate cancer survivors undergoing hormonal adjuvant treatment. As cancer survivors present with multiple symptoms, we wished to assess the feasibility of using NADA to manage other troublesome symptoms and enhance wellbeing. Our aims were to: 1) identify symptoms that prostate cancer survivors find troublesome, 2) assess potential effects of NADA on wellbeing, 3) assess acceptability of NADA treatment.

Methods: This was a clinical outcomes assessment using mixed methods. Prostate cancer survivors consented to: 1) receive 8 NADA treatments, 2) complete questionnaires, and 3) use of their anonymised data for dissemination. Quantitative measures included the Measure Yourself Medical Outcome Profile (MYMOP), Symptom Related Daily Interference Scale (SRDIS), and SF-36 at baseline and end-of-treatment (EOT). Semi-structured questionnaires were administered at EOT and 4 and 12 weeks post-EOT. Focus groups were conducted to collect qualitative data.

Results: 19/20 participants completed treatment; 17 returned all questionnaires. Troublesome symptoms included hot flushes, urinary and bowel incontinence, fatigue, pain, decreased libido. The mean MYMOP profile change score was 1.69 points improvement on a 7-point scale (sd = 1.25, p < .0001). Clinical and statistical significance was reached on all MYMOP domains. Six of ten SRDIS domains showed significant improvement, including Work, Social, Sleep, Mood, Concentration and Quality of life. On the SF-36, only Vitality showed significant improvement (9.38 points, sd = 13.5, p = 0.14). Analysis of qualitative data from two focus groups (n = 10) is in progress; preliminary results indicate patients are enthusiastic about the treatment.

Discussion: NADA ear acupuncture offers the possibility of standardised low-cost treatment. This clinical outcomes assessment demonstrated potential for improving wellbeing, and was acceptable to prostate cancer survivors. Further formal research is warranted.

P-56
EVALUATION OF ENERGETIC STABILITY OF ELECTRODIAGNOSTIC RYODORAKU AT ACUPUNCTURE

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Background: The technology helps the medicine to perceive information until recently difficult to record. In acupuncture it is necessary energetic diagnosis, with the electrodiagnostic Ryodoraku may be an important aid in this context, particularly the evaluation of bioelectrical meridians.

Objective: To evaluate the stability of energy meridians through Ryodoraku electrodiagnostic in healthy people.

Methodology: This study was observational, descriptive and applied nature, with quantitative evaluation with 41 volunteers of both sexes aged between 18 to 60 years, where were instructed not to change their routines. It was used electrodiagnostic equipment Ryodoraku, NKL make, model OMNIPAX,calibrated. At 3 consecutive days, at the same time the readings at the points specified by the technique. The data and variables were organized and statistically treated with SPPS version 20, by assessing the degree of individual variability and average the interpretation of the readings imbalance in meridians.

Results: There was a instability of 28,66% from the data of 3 consecutive days of readings,but with repeated measures ANOVA no significant difference (p = 0,126).Conclusion: The Ryodoraku electrodiagnostic was stable as therapeutic support resource, however this can not be the only tool by diagnostic to professional acupuncturist.

P-57
EXAMINATION OF ACUPUNCTURE FOR CHEMOTHERAPY-INDUCED NEUROPATHIES: EFFECTIVENESS AND MECHANISMS

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Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death in women, accounting for 23% of cancer diagnoses and 14% of cancer deaths each year. Systemic chemotherapy remains a critical component in the eradication of occult micrometastatic disease in the adjuvant setting. At present, standard adjuvant chemotherapy include anthracyclines, cyclophosphamide followed by taxanes. Neuropathies caused by taxanes include peripheral neuropathy, motor weakness, myalgia, and arthralgia. Between 60 and 90% of patients receiving taxanes develop mild to moderate neuropathies. Studies investigating the effect of acupuncture on chemotherapy-induced neuropathies are limited but report promising results. A possible mechanism of action explaining these findings are the effects of acupuncture on cytokine levels. Studies were found that reported that acupuncture may modulate the peripheral blood lymphocyte subpopulations and serum cytokine levels. The first study of acupuncture-related stem cell mobilization was reported in 2010 in an investigation of acupuncture for the treatment of spinal cord injury. The results of this study indicated that acupuncture mobilized CD133+ and CD34- cells. Numerous animal studies suggest that acupuncture also leads to analgesia via powerful central pain modulatory mechanisms. Two extensively studied dynamic quantitative sensory tests have emerged as human behavioral correlates of ascending excitatory and descending inhibitory limbs of central pain modulation: temporal summation and condition pain modulation. The Primary Objective of this study is to determine the clinical benefit of acupuncture treatment in reducing taxane induced neurotoxicities.

Secondary Objectives are to determine the impact of AT on inflammatory cytokines, to determine the impact of AT on mobilization of MSC's into the systemic circulation, to determine the impact of AT on ascending facilitation and descending inhibition of nociceptive transmission through the administration of dynamic quantitative sensory tests and to determine the feasibility of recruiting cancer patients to participate in this trial.

P-58
EXPECTANCY EFFECTS ASSOCIATED WITH ACUPUNCTURE ANALGESIA IN PATIENTS WITH KNEE OSTEOARTHRITIS

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Introduction: This neuroimaging experiment was conducted to study the variability in individual responses to acupuncture treatment by using a behavioral manipulation in order to investigate expectancy effects on acupuncture analgesia.

Methods: In a between-subjects design, forty-nine subjects with knee osteoarthritis (age $= 59.45 \pm 7.45$) were randomly assigned to: Acupuncture Boost (N$=16$), No-Boost (N$=16$) and Waitlist (N$=17$) groups. During imaging, Boost subjects were given painful heat stimuli followed by a twenty-minute acupuncture treatment and were told they would be given the same temperature of heat directly afterwards, which were then lowered without their knowledge. All subjects completed the Knee injury and Osteoarthritis Outcome Score (KOOS) [1] (0-100 scale: 100 favorable) and The Brief Pain Inventory (BPI) Short Form [2] (0-10 scale: 0 no pain, 10 highest pain) pre and post ten acupuncture treatments.

Results: One-way Analyses of Covariance (ANCOVA) were conducted to determine a statistically significant difference between groups on post-treatment KOOS Average Pain scores controlling for pre-treatment KOOS Average Pain scores ($p < 0.05$) and on post-treatment BPI Pain scores controlling for pre-treatment scores ($p < 0.005$). Bonferroni post-hoc tests showed no significant difference between Boost and No-Boost groups or between No-Boost and Waitlist groups. There was a significant difference between Boost and Waitlist groups for both measures (KOOS Average Pain $p = 0.012$, BPI Pain $p = 0.003$).

Conclusions: Because Boost had a significantly more positive outcome than the Waitlist group but No-Boost did not, our results suggest that an increased expectancy for acupuncture analgesia may have an influence on pain relief outcomes.References

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P-59
FACULTY NEEDS ANALYSIS FOR IMPLEMENTATION OF EVIDENCE INFORMED PRACTICE FACULTY AND CURRICULUM DEVELOPMENT

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Purpose: A needs analysis of faculty at a US East Asian medical college was undertaken to identify potential problems and barriers to the implementation of an NIH-funded project aimed at training faculty and developing curriculum in Evidence Informed Practice.

Methods: A survey was administered in the Research Electronic Data Capture (REDCap) system. There were 41 close-ended questions with 5-point Likert answers, and 5 open-ended questions. In November 2014 a link to the survey was sent to faculty via email, and followed by two reminder emails.

Results: Eighty-three of 90 faculty responded to the survey, a response rate of 92%. Responses illustrated high levels of self-reported research literacy, and a generally high degree of support for the project and the importance of research. However, lower levels of agreement were seen for faculty's ability to incorporate research into the curriculum. There was a lack of support for research participation, and a lack of confidence in the institution's ability to support research development in the curriculum. Responses to open-ended questions demonstrated an appreciation for the importance of the project, concerns

about paradigm differences between biomedicine and East Asian medicine, and an interest in research training and engaging in research projects and discussion groups.

Conclusions: Although faculty expressed reservations about their own and the institution's ability to undertake the project, they are interested in receiving training, and also in developing research-based curriculum and engaging in research activities.

P-60

HETEROGENEOUS NEURAL MECHANISM UNDERLYING IPSI- AND CONTRA-LATERAL ACUPUNCTURE ANALGESIA IN THE CAPSAICIN-INDUCED PAIN MODEL

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Purpose: Acupuncture application side, ipsi- or contra-lateral side to the pain site, plays a pivotal role in reaching its better analgesic treatment effect.The current study aimed to investigate the differential neural mechanism underlying acupuncture stimulation locations ipsilateral and contralateral to pain sites using capsaicin-induced allodynia as a pain model on human body.

Methods and Materials: Twenty-eight subjects were divided into two groups with a 2×2 factorial design: laterality (inter-subject) $\times$ verum or placebo (sham) acupuncture treatment (within-subject), counter-balanced at an interval of one week. A topical application of capsaicin cream to left forearm was used to elicit allodynia. In the present study, we observed subjective pain intensity levels (pain sensory ratings) and brain activations changes before and after acupuncture treatment at LI4 for 30 min.

Results: Both ipsi- and contra-lateral verum acupuncture (VA) reduced the subjective pain ratings ($P < 0.01$), while ipsilateral verum acupuncture showed prominently greater pain attenuations than the contralateral side. In contrast,significant pain reductions emerged after placebo acupuncture (PA) only on the ipsilateral side ($P < 0.05$), but not on the contralateral side. There was a wide range of signal changes in response to capsaicin allodynia pain after ipsilateral VA. Contralateral VA can also reduce the signal changes in the pain-modulated regions with a less spatial distribution and signal intensity. Moreover, there was a less range of signal changes after ipsilateral PA.

Conclusions: The results indicated that VA manipulating at either ipsi- or contra-lateral side can effectively modulate pain perception but involve different neural mechanisms. VA ipsilaterally was more effective in the pain relief than the contralateral condition. In contrast, PA can also induce pain relief but only on the ipsilateral side. This modulation effect was spatially and somatotopically specific, demonstrating that placebo analgesia can be attenuated in regions of the body where expectation is less focused.

P-61

HOW TCM PRACTITIONERS TREAT GULF WAR ILLNESS; FINDINGS OF AN RCT WITH INDIVIDUALIZED TREATMENTS

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Purpose: This project describes the presentations and treatment of Gulf War Illness (GWI) from a TCM point of view using various retrospective analysis techniques. Parent data comes from a completed 3.5-year Army-funded RCT ''The Effectiveness of Acupuncture in the Treatment of GWI''. Individualized acupuncture treatments were administered by practitioners in the community for a possible treatment window of 6 months. A standardized treatment protocol was not used; instead experienced practitioners were given training in the known medical information of GWI, and encouraged to treat with discretion while keeping detailed treatment records. We found positive results using our biomedical outcome measurements and now turn to better understand what took place during the individual diagnosis and treatment plans. Our naturalistic data, is heterogeneous and complex representing the work of 32 practitioners treating the range of GWI presentations in the best manner they know, with only limited restriction (e.g. herbs were not allowed).

Methods: First, to better understand how patient presentations change over time, we map (using a sample of patients) each symptom using Matrix Analysis to visually explore the relationships between symptoms and diagnoses offered at baseline with those gathered over the course of treatment. Second, we use cluster analysis to empirically look for linkages between factors presented at baseline (signs, symptoms, diagnosis) to begin to articulate how to talk about GWI in terms of TCM. Our eventual project goal is to add treatment data and develop a TCM model (or models) for GWI.

Results: We are currently implementing these descriptive analyses.

Conclusion: GWI is not a recognized TCM diagnosis but the novelty of our emergent treatment data may offer new answers to difficult treatment questions. We are consolidating our clinical data into a form that practitioners can use to improve the health of GWI veterans and others with similar complex illnesses.

P-62

IDENTIFICATION OF MOXA FLOSS FROM DIFFERENT GEOGRAPHICAL ORIGINS AND QUALITY GRADES USING ELECTRONIC NOSE COUPLED WITH ARTIFICIAL NEURAL NETWORKS

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Purpose: Identification of moxa floss used in moxibustion from different geographical origins and quality grades was

investigated based on the aromatic profiles using an electronic nose (e-nose) with twelve metal oxide sensors. The main objectives of this study are (1) to evaluate the potential of e-nose for discriminating moxa floss from different origins and (2) moxa floss of different quality grades from the same origin; (3) to solve classification and regression problems by using four different chemometric approaches, including exploring the best parameters for classification modeling and contrasting these networks based on cross-validation performance.

Methods: 19 samples of moxa sticks were selected, of which 15 samples were produced by manufacturers in different parts of China, while 4 samples were purchased from a moxa production factory in Japan. All samples were analyzed on an electronic nose α-FOX3000 (Alpha MOS, Toulouse, France) combined with a headspace auto-sampler. The multidimensional data from e-nose sensors were submitted to principal component analysis (PCA) and neural network analyses. The classification of three pattern recognition algorithms which include radial basis function (RBF), multilayer perceptron (MLP) and random forests (RF) using two model validation procedures of either training/test splitting of data or 10-fold cross validation were compared.

Results: The results showed that PCA performed well in discriminating moxa floss samples from different geographical origins, with the first two principal components explaining 98.68% of the data variation. RBF (91.23%), MLP (94.74%) and RF (92.98%) were more powerful and effective in objectively differentiating moxa floss samples of the same geographical origin but different quality grades.

Conclusion: Optimizing sensor array by using feature selection methods can help to achieve cost-effectiveness and operational simplicity, while retaining prediction accuracy. E-nose analysis may be a potentially viable method for rapid and nondestructive analysis of moxa floss discrimination.

P-63
IMMEDIATE RESPONSE GAIN IN GRIP STRENGTH WITH ACUPUNCTURE: EXPERIMENTAL STUDY

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Background: Muscle strength is an important component for performing different daily tasks and has significant effect on health. Grip strength can be considered as one of the parameters of the overall strength state of individuals. Objective: To evaluate the immediate response of the capacity of gaining handgrip strength after the application of ACP.

Methodology: The study was experimental, quantitative, and partially blind clinical trial with a control group. The sample consisted of 73 healthy volunteers of both sex, not athletes, with mean age 35 ± 10.01 years, which were divided by deterministic allocation with sequential alternation in three groups: acupuncture (GACP n=24), sham acupuncture (Gsham n=25) and control (GCRT n=24). As material was used a calibrated mechanical manual dynamometer and disposables needles 0.25×40mm.The handgrip test was performed in all groups, in both hands, three repetitions of maximal contraction force for each hand. The average measures were used for statistical analysis, this procedure was done before and after the intervention. The GACP received needles in SJ 5 (waiguan), ST36 (zusanli) and GB34 (yanglingquan). The Gsham received superficial needles placed out of the ACP points. All subjects in all groups remained at rest for a period of 20 minutes.

Results: GACP showed a significant strength gain of 4,78 Kgf (p=0.005), the Gsham showed a non-significant gain of 1.13 Kgf (p=0.370) and GCRT that not received ACP intervention, showed a non-significant reduction of average strength handgrip of 1.97 Kgf (p=0.210). Conclusion: The ACP in a single intervention was able to promote as immediate response significant average gain strength in handgrip of 4.78 Kgf.

Keywords: Acupuncture, strength gain, handgrip

P-64
IMPACT OF AN EDUCATIONAL WORKSHOP ON ACUPUNCTURE FOR CHILDREN

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Background: Acupuncture usage has steadily increased in the United States, however educational materials to introduce acupuncture to medical providers are scarce.

Objective: Determine the immediate and short term effectiveness of an Acupuncture for Children Workshop on medical providers.

Methods: Utilize an immediate and one month post workshop survey for medical students, residents, nurses and attendings. Administer an immediate post workshop survey to assess: 1- Knowledge acquisition and application through three case scenarios; 2- Perception changes; 3- Feedback on 4 workshop components – Evidence Review, Videos, Experiential.

History: Administer a one month post workshop survey to both attendees and non-attendees to: 1- Assess attendee's short term knowledge retention with the same three case scenarios; 2- Determine if attendees considered using acupuncture for their patients or themselves; 3- Compare perception and knowledge between workshop attendees and non-attendees.

Results: To date we have enrolled 57 participants: Attendings 22, Residents 18, Nurses 9, Medical Students 8. Female 54%, Not Hispanic 81%.

Immediate Post Workshop Survey Results: Baseline Experience With Acupuncture −95% have heard of acupuncture but never received a formal lecture, 30% have received acupuncture, 60% of their friends/families have had acupuncture. 1- Knowledge - Majority acquired and correctly applied the knowledge from the workshop to the three scenarios- 62% in Case I, 96% in Case II and III. 2- Perception −96% reported an increase in their knowledge and understanding of clinical indications for acupuncture. 80% would use acupuncture for themselves and 87% for patients. 3- Feedback on workshop components as useful or very useful −90% for the Evidence Review and Videos, 80% for the Experiential and History. The one month post workshop survey collection is in progress.

Conclusions: The majority of attendees at this Acupuncture for Children Workshop gained acupuncture knowledge and would consider using it for themselves and patients.

P-65
IMPROVEMENTS IN PERCEIVED SOCIAL SUPPORT AND HEALTH BEHAVIORS FOLLOWING ACUPUNCTURE TREATMENT IN A VETERAN POPULATION

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Purpose: There is a growing body of evidence that acupuncture treatment is effective and well tolerated by a veteran

population. This analysis considers if acupuncture treatment is associated with improvements in social support and healthy behaviors in a veteran sample. These factors can be of influence as veterans reintegrate into civilian life; reintegration is a time at which the service member can face social, psychological and physical challenges. Use of Complementary and Alternative Medicine by military veterans is associated with reduced alcohol and tobacco use compared to non CAM users. Social support is a known predictor of health status and correlate of health improvement. Scientific attempts to administer social support have shown at best moderate effectiveness while holistic therapies like acupuncture may naturalistically offer improvements in social support. This project uses data from a recently completed Army funded RCT "The Effectiveness of Acupuncture in the Treatment of Gulf War Illness". Measurements of Perceived Social Support as well as health behaviors were recorded at baseline, and following 2, 4 and 6 months of treatment using validated reliable surveys.

Methods: We utilize Student's t-tests and ANOVA to consider change in these variables overtime.

Results: Statistically significant (to p<= 0.05) improvements were found in subjects perceived social support post program. Interestingly these affective changes were not due to the addition of new social contacts as we found no statistically significant changes in social networks. The improvements appear to be due to changes in how the individuals feel in relation to their social world. Subjects also reported decreases in alcohol and tobacco use.

Conclusion: Acupuncture treatment may help veterans engage in positive health behaviors, feel more supported in their social world, and reintegrate to civilian life.

P-66
INFLUENCE OF ACUPUNCTURE NEEDLE DIMENSIONS AND MECHANICAL PROPERTIES ON NEEDLING QUALITY

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Acupuncture needles are one of the world's most commonly used medical devices. The use of acupuncture needling has been extensively investigated in the treatment of several clinical conditions. However, the description of needle characteristics related to the quality of acupuncture needling remains unexplored. This study aimed to investigate the role of acupuncture needles dimensions, finishing and mechanical properties on the quality of acupuncture needling. The study design involved two phases: 1-Delphi consensus method and 2-biomechanical analysis of acupuncture needles. Five experienced acupuncturists participated in 3 rounds of Delphi consensus method. The first and second rounds focused on identifying the needling characteristics that facilitate or worsen the use of acupuncture needles in clinical practice. In the third round the acupuncturists elected three different brands of acupuncture needles that they considered to have high(A), medium(B) and low(C) needling quality. Samples of 0,25mm×0,40mm acupuncture needles of these three brands were analyzed in laboratory (n = 15 per brand). The shape of the needle's tip, the dimensions of the cone formed by the tip of the needle (TIP) and surface conditions were analyzed using a scanning electron microscope. The flexural strength and the insertion force for the three different designs of acupuncture needles were determined using a universal testing machine. Needle dimensions and needle's guide tube size were measured with a calipter rule. Needles from the A and B brands showed larger dimensions of the TIP than the brand C. Surface condition of the brand B demonstrated fewer irregularities than brands A and C. The difference between the needle's length and the guide tube's length was significantly smaller in the A brand. Our findings suggest that needle dimensions, specially the cone formed by the tip of the needle and the guide tube length, influence the quality of acupuncture needling perceived by experienced acupuncturists.

P-67
INTEGRATING CHINESE MEDICINE WITH WESTERN MEDICINE IN TREATING INFERTILITY

Doreen Chen, WFCMS, AAAOM, UANYLA

Clinical study of 87 cases of infertility demonstrated both the Chinese medicine diagnostic pattern and the corresponding Western medicine diagnostic cause. Among 87 cases, 48 cases were selected who received the Chinese medicine and Western medicine intervention and more than 3 months of Chinese medicine treatment. 23 cases of them succeeded in pregnancy and delivery, with a success rate of 47.9%. In 1997–1999, a routine herbal remedy was developed according to menstrual cycle based on basal temperature curve. The follicle tea for the first 10–12 days of the cycle was to nourish Kidney Yin; the ovulation tea was for promoting Blood and Qi with acupuncture on Sp6 to stimulate ovulation; the progesterone tea was for 10–12 days to nourish Kidney Yang with Qi lamp application on GV3 and GV5 to help conceive. It was named "Three Tea Recipe". From year of 2000, the strategy was improved by basically offering "Three Tea Recipe" in addition with specific herbal formula based on each individual Chinese medicine diagnostic pattern, which yielded more promising results. This paper is to illustrate that by integrating Chinese medicine with Western medicine in treating infertility, one out of two infertility patients can have their baby after the failure of their Western intervention, which is very encouraging. I believe that the future our health care system would be "Integrative Medicine".

P-68
INTEGRATIVE HEALTHCARE AND WELLNESS PROGRAM: BASELINE CHARACTERISTICS OF VETERANS WITH CHRONIC PAIN RECEIVING INDIVIDUAL ACUPUNCTURE

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Purpose: An increasing body of research has supports acupuncture for improving psychological and physical health, including chronic pain. However limited research exists regarding the use of acupuncture for veterans with chronic pain. This study examined baseline physical and mental health characteristics of

veterans with self-reported chronic pain receiving individual acupuncture through the Integrative Health and Wellness (IHW) Program at the Washington DC VA Medical Center.

Methods: Participants were referred to the IHW Program from clinics hospital-wide. Males constituted 40% of the sample with a mean age of 48.5. Baseline assessments included the Measure Yourself Medical Outcome Profile-2 (MYMOP-2), Insomnia Severity Index (ISI), Defense and Veteran Pain Rating Scale (DVPRS), Pain Disability Questionnaire (PDQ), Posttraumatic Stress Checklist 5 (PCL-5), Beck Depression Inventory-II (BDI-II).

Results: Participants reported clinically significant depressive symptoms (BDI-II; $\times$ $\bar{X} = 24.05$), sleep difficulty (ISI; $\times$ $\bar{X} = 14.94$), and pain (DVPRS; $\times \bar{X} = 5.6$; PROMIS-29; $\times \bar{X} = 34.4$) interfering with daily functioning (PDQ; $\times \bar{X} = 80.05$; PROMIS-29; $\times \bar{X} = 63.8$). Participants endorsed subthreshold, but significant traumatic stress (PCL-5; $\times$ $\bar{X} = 32.32$); 48.6% of the sample screened positive for PTSD. All participants rated pain or psychological distress as their primary concerning symptom and 75% of participants indicated primary symptom history of five years or more (MYMOP-2). Correlational analyses revealed a significant relationship between the PDQ and MYMOP wellbeing item ($r = .35$; $p = .04$). The correlation between BDI-II and PDQ scores approached significance ($r = .33$; $p = .054$).

Conclusions: This study described the demographic characteristics and symptomatology of veterans with self-reported chronic pain seeking individual acupuncture and demonstrates that these veterans have significant mental health and pain interference symptoms. These results support the dynamic interplay between mental health and pain and suggest that veterans with these symptoms are interested in acupuncture services. Future research should examine the longitudinal impact of acupuncture for veterans with chronic pain.

P-69
IS ANESTHESIA NECESSARY FOR ACUPUNCTURE RESEARCH IN CARDIOVASCULAR RAT MODELS?

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Purpose: Anesthetizing rats before every acupuncture treatment is clinically unfeasible and the drugs can sometimes blunt effects, especially in cardiovascular research. This study explored the effects of electroacupuncture (EA) in cardioprotection of ischemia-reperfusion (IR) injury rat models between the anesthetized groups and the restrained groups.

Methods: 32 rats were divided into an anesthetized (AN) group and a restrained (RS) group. The two groups were divided into four subgroups each: (1) sham; (2) control; (3) IR +

EA (EA on PC6, ST36 for 30 min); (4) IR + placebo (acupuncture on non-acupuncture points without electrical stimulation). All rats in the AN group were anesthetized with ketamine (75mg/kg) and xylazine (2mg/kg), and all rats in the RS group were immobilized in restrainers for the same amount of time. After 5 days, cardiac function was analyzed using transthoracic echocardiograph. ANOVA followed by Student-Newman-Keuls multiple comparison test was used to analyze group differences.

Results: Ejection fraction between the control, IR + EA, IR + placebo group in the RS group were not significantly different (control, 58.83 ± 5.80; IR + EA, 67.03 ± 3.40; IR + placebo, 60.30 ± 5.49). However, the ejection fraction between the AN groups were significantly different (IR + EA vs. control: 70.56 ± 4.42 vs. 60.30 ± 5.49, IR + EA vs. IR + placebo: 70.56 ± 4.42 vs. 54.88 ± 2.12, $p < 0.05$).

Conclusion: Cardioprotection induced by EA was similar between the IR + EA subgroups of both AN and RS groups. However, the IR + EA and IR + placebo groups in the RS group showed little difference in recovery of cardiac function. This study shows that when using restrained rats, controlling for factors arising from immobilization and EA must be considered. If not, using ketamine and xylazine may be a better option.

P-70
IS RESPONSE OF AUTONOMIC NERVOUS SYSTEM MEASURED BY HEART RATE VARIABILITY AND GALVANIC SKIN RESPONSE SIMILAR DURING ACUPUNCTURE TREATMENT?

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Purpose: The regulatory effects of acupuncture on the autonomic nervous system (ANS) is well known, and to measure the fluctuations, several methods have been used. Among them, heart rate variability (HRV) and galvanic skin response (GSR) have been frequently utilized. However, not much research has directly compared these two parameters in acupuncture treatment. Therefore in this study, we measured the acute changes in ANS tone with HRV (Low Frequency(LF) /High Frequency (HF) ratio) and GSR before, during, and after acupuncture treatment and analyzed whether the measured changes were similar or not.

Methods: 3 healthy participants received 30 minutes of electro-acupuncture treatment for 4 days. Each day they received acupuncture treatment on four different acupoint groups: 1) ST36-ST37, 2) LI5-LI11, 3) PC5-PC7, 4) GB37-GB39, in random order. ANS activity was measured by HRV and GSR using Powerlab (AD Instrument, Australia). The specific time points that HRV and GSR were measured were: 1) last 5 minutes during the 10 minute resting period before needle insertion, 2) last 5 minutes during the 30 minute treatment session, and 3) last 5 minutes during the 10 minute resting period after needle removal.

Results: We compared the changes in ANS in the 12 sessions that were measured. The changes in direction of the GSR and LF/HF ratio were not the same in 4 sessions between before and

during treatment, and were not same in 6 sessions between during and after treatment.

Conclusion: Although both LF/HF ratio and GSR changes reflect alterations in ANS activity, the changes in direction of GSR and LF/HF ratio were not the same in some sessions. This indicates that ANS changes after acupuncture treatment is a systemic response that cannot be generalized definitively using only one or two parameters. Future research with more participants is needed due to small sample size.

P-71
MEASUREMENTS OF NEGATIVE PRESSURE AND BLEEDING DURING WET CUPPING

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Objective: Wet cupping is a common intervention for a variety of conditions, and it is widely used in Korea. We measured negative pressure in the cups and bleeding volume during wet cupping in patients with musculoskeletal disease.

Methods: We recruited 200 patients with musculoskeletal disease at Wonkwang and Gachon Hospitals. We took measurements from 8 areas: neck, upper arm, back, chest/abdomen/head, low back, lower arm, pelvis/thigh, and leg/ankle/foot. One to 4 disposable cups were used for each patient. One to 2 cups were used for negative pressure measurements and 1 to 4 cups were used to measure the amount of bleeding.

Results: There were 206 negative pressure measurements, and 621 measurements of blood volume. The average negative pressure in the cups was -431.79 ± 69.18 mmHg (-57.57 ± 9.22 kPa), and bleeding volume was 0.81 ± 0.50 cc.

Conclusions: The results provide descriptive statistics for negative pressure and amount of bleeding during wet cupping. This will help to facilitate standardization of cupping therapy.

P-72
MELTING POT: COMMUNICATION AND COLLABORATION BETWEEN ACUPUNCTURISTS AND MEDICAL STAFF IN A HOSPITAL SETTING

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Goal: We are exploring process of communication and collaboration between healthcare providers from different epistemological backgrounds: practitioners of East-Asian medicine (acupuncturists) and biomedical providers (physicians and nurses).

Methodology: The setting is a tertiary teaching hospital in New York, where free acupuncture care is offered to inpatients in selected departments. The study informants are acupuncturists, physicians, nurses, and administrative staff who have participated in the acupuncture program in the past 6 years. We asked the participants to describe their experience of collaborating in inpatient care and we have used phenomenological methodology to analyze data.

Findings: We have identified the following clusters of themes: (a) acupuncturists are not prepared by acupuncture schools to work in hospitals, but they can successfully adopt to the hospital setting; (b) doctors don't know much about acupuncture and their main concern is patient safety; (c) doctors, acupuncturists, and nurses utilize a spectrum of languages, from Western anatomy and pathophysiology to Eastern systematic correspondences, to communicate between each other and explain acupuncture to patients; (d) acupuncturists build trust among medical staff by providing effective patient care and being an ongoing presence in hospital departments.

Discussion: Our study offers insights into how providers from different epistemological backgrounds build trust in order to effectively collaborate in patient care. To the surprise of some medical staff and acupuncturists, integrating acupuncture care in a hospital has shown to be easier and smoother than anticipated and can be summarized as a process of building trust through the every-day collaboration; understanding when acupuncture can be effectively used to manage symptoms; flexibility in the use of the spectrum of languages to describe "how acupuncture works;" and personal interactions between acupuncturists and medical staff. This study may be of interest to clinicians, healthcare administrators, and to researchers studying interdisciplinary health care.

P-73
NEURAL CORRELATES OF SOMATOSENSORY NEEDLING AND NEEDLING CREDIBILITY OF ACUPUNCTURE ON LOW BACK PAIN: FMRI STUDY

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Introduction: Although sham acupunctures and real acupuncture are known to reduce low back pain (LBP), the exact brain correlates of placebo effect in acupuncture is not clearly understood. So we investigated the neural correlates of needling credibility in acupuncture to dissociate it from somatosensory needling effect using a novel form of sham acupuncture "phantom acupuncture".

Methods: Forty nine LBP patients were randomized into real (REAL, n = 26) and phantom (PHNT, n = 23) groups (Fig. 1A, B). In acupuncture session, REAL got acupuncture at left ST36, SP11 and bilateral SP13 points (five times stimulation per each point in a random order with inter-stimulus interval of 17.8 ± 1.7 seconds) (Fig.1C), while PHNT received only visual stimulation by watching videoclip (recorded needling manipulation in REAL session) to create needling credibility.

Results: PHNT experienced only needling credibility with visual stimulation while REAL experienced both needling credibility and somatosensory stimulation. In PHNT we found activation in somatosensory processing areas including SI, SII and anterior cingulate cortex but not in posterior insula and thalamus where activated in REAL (Fig. 2A, B). Activation in rewarding and pain processing areas (periaqueductal gray, nucleus accumbens and putamen) were observed in both groups. Activation in pain evaluation area (inferior frontal gyrus) observed in PHNT while deactivation in cognitive processing area dorsolateral prefrontal cortex (DLPFC) in REAL. In difference map, differences in activation intensity in IFG, DLPFC driven by activation in PHNT, while activation in ACC, posterior insula and deactivation in DMN were strongly observed in REAL (Fig. 2C).

Conclusion: Although PHNT didn't have any sensory afference stimulation, somatosensory regions and pain and rewarding processing areas were activated, also they had greater activation in the IFG and DLPFC which probably were associated with body awareness and anticipation for healing. Somatosensory needling/afference in REAL induces greater deactivation in DMN and sensory motor area and posterior insula. Needling credibility which is visually induced sensory expectation might be contributing factor for placebo by prefrontal and sensory regions.

P-74
NEUROMETRIC COMPUTED RESPONSE IN AURICULOACUPUNCTURE - CASE REPORT

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Background: Modern science seeks to constantly investigate the mechanisms and neurophysiological basis of the effects of acupuncture. This study brought together the auriculoacupuncture and the neurosciences.Objective:Evaluate and report on the neurofunctional reactions associated with the autonomic nervous system by stimulating auriculoacupuncture.

Methodology: The study was in 3 volunteer, age 40 to 55 years,both sexes.We conducted the examination DLO (Lying - Lifted – Orthostatic) and with equipment computerized for neurometry, trade mark BioEvolution, in the moments before, 15 minutes, 24 and 48 hours after application. Semi-permanent needles for auriculoacupuncture with 1.5 mm in size was used in the acupoints: shen men sympathetic nervous system and kidney.

Results: The volunteers initially present physiological deficiency profiles, anxiety and severe adrenal stress with physical and emotional exhaustion, moderate cardiac disorders, autonomic dysfunction compatible with exhaustion, moderate respiratory changes and severe functional change in blood flow. After 15 minutes of application of the needles there were positive changes in heart rate variability and evolution of blood flow. After 24 hours showed significant improvement in anxiety and adrenal stress. After 48 hours was registered an improvement all the neurophysiological parameters evaluated by neurometry. Was visually perceptible neuroimaging record during the stimulus by auriculoacupuncture.

Conclusion: There was improvement in all parameters evaluated by neurometry after auriculoacupuncture stimulation in acupoints, showing a satisfactory manner unleashed the neurophysiological response. We recommend the use of computed neurometry for studies of neurophysiological effects mediated by auriculoacupuncture stimuli.

Keywords: auriculoacupuncture, neurometry, autonomic nervous system.

P-75
ONCOLOGY AND SUN SI MIAO, TREATMENTS OF CANCER

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The report presents the thirteen gui points reported by Sun Si Miao and his therapeutic method for the cure of the animic patology and the following severe mental illness. In addition to mental desease indicated by Sun Si Miao, the Authors extend the pathological consequences of the soul patology in other several diseases, between these, the cancer. Starting from Sun Si Miao and Korean Seven Dragons the report proposes a new method of treatment for the support to chemotherapy in cancer patients. The aim and the purpose of this treatment is the reduction of the tumor mass and not only treating the side effects of chemotherapy such as fatigue, nausea and vomiting. Therefore the report on the base of the teachings of Sun Si Miao analyzes the usual antinausea and antivomit protocols used in the hospitals. Then the Authors propose their away of cure, still based on the teachings of Sun Si Miao and directed also to reduce and eliminate the cancer mass, together with chemotherapy and complementary to it. At least the report reserve a special attention to the auto cure of the patient, through various autotherapies, between which the ancient qigong exercise, the Flaying Dragon.

P-76
ONCOLOGY AND TCM

Paola Poli, AGOM Acupuncture in the world; Carlo Moiraghi, ALMA Lombard Association of Acupuncture Medical Doctore

The report presents the shape and structure of the soul according to the taoist knowledge and explores the roots of the soul disease causing cancer. The foundation of all traditional approach is the unity between the physical body and mental body, so the soul disease can realize and manifest also in the physical body. The traditional chinese ideography and iconography clarify the gui bodies are contained in the primeval animic, benshen, hun and po, encapsulated in them. The pathological activation of the embryonic form of the organism, in order to the archaic creative power, may cause an alteration of the state of consciousness, shen, and the following pathogenic release of the animic embryonic bodies, benshen, hun and po, and the release of entity enclosed in them, the gui, ghost and demon, and can cause cancer. With regard to the physiology, stem cells appear to represent a manifestation of those spiritual principles that originate from the sky and from the earth at conception. When the healthy cell loses, their physiological functions turns into cancer. They grow, replicate and expand at the expense of the body just like the gui escaped from benshen is now serious pathogen for the body and can cause infestations of gu, root of energy degeneration and organic cancer. The proposals for prevention and treatment are related to the cure of the embryonic body, designed to restore the sick body's energy balance, pacify the mental and emotional trouble, restoring the stable efficacy of a reasonable state of consciousness. The report presents traditional methods of Sun Si Miao's acupuncture protocols of the seventh century, Korean traditional protocols of acupuncture, the Seven Dragons, and an ancient practic of qigong, the Flying Dragon.

P-77
PARKINSON'S DISEASE TREATED WITH SCALP ACUPUNCTURE - A NEW SOMATOTOPE

Dorothea Zeise-Suess, General practitioner

1.) A statement of the purpose of the study. The current research deals with the treatment of patients suffering from Parkinson's disease, whose main symptoms (movement disorder, rigidity, insomnia, face mask, eye blink less frequently) can be enhanced by acupuncture of a new somatotope according to Yamamotos YNSA. The efficacy of acupuncture of this new somatotope (dopaminergic) was confirmed by laboratory tests (2013) 2.) An outline of the methods used. Acupuncture of the new somatotope on both sides of the scull in the area of the Y-points

according to Yamamoto (YNSA). The patients are treated one time a week for 25 minutes without movement of the needles. There was no change in the drugs regime. Objectified with the following methods: a.) All symptoms with PDQ39 (Parkinson disease questionnaires) and b.) movement measurement defined by 1.) Change in walking distances in a time slot and, 2.) Smartphone App with additional motion sensors. 3.) A summary of the results presented in sufficient detail to support the conclusions. 80% of the treated patients a significant enhancement of all symptoms mentioned above was observed. The effect was maintained for one week. 20% of the patients felt worse in terms of dopamine overdose. The effect was maintained for one week. There were no non-responders. 4.) A statement of the conclusions reached. The assumption that the acupuncture acts dopaminergic, was confirmed in all treated patients. In case of aggravation (20%) the reaction is to be interpreted as dopaminergic effect too. One explanation for the effect is that dopamin produced naturally in body will be stimulated by acupuncture of the new somatotope.

P-78
PATIENT CHARACTERISTICS AND MYMOP OUTCOMES OF ACUPUNCTURE VISITS FOR ACUTE VS CHRONIC CONDITIONS: DATA FROM A TEACHING CLINIC

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Purpose: Chronic and acute conditions have different characteristics. This report focuses on patients having acute vs chronic baseline characteristics and MYMOP outcomes from acupuncture treatments.

Methods: This is a secondary analysis looking at 581 patients who i) completed an initial and 6th week follow-up ''Measure Your Medical Outcome Profile'' (MYMOP) form and ii) specified acute or chronic conditions on their initial MYMOP form and visited the New England School of Acupuncture (NESA) main clinic site in Massachusetts, USA in 2011.

Results: Patients were mostly female (69%), mostly White (82%), and mostly college educated (65%). Most patients had chronic conditions for acupuncture treatment. Patients with acute and chronic conditions had similar baseline sociodemographic characteristics and similar baseline MYMOP scores. However, acute conditions tended to see greater improvement in MYMOP Symptom 1 scores with short term acupuncture treatments than chronic conditions.

Conclusion: We found patients' social demographics for acute and chronic conditions and their MYMOP outcomes in a teaching clinic in the United States. The findings may not apply to other conditions or non-teaching clinics.

P-79
PATIENT SAFETY AND SATISFACTION WITH ELECTROACUPUNCTURE IN A TEACHING CLINIC: A SURVEY OF INTERNS AND PATIENTS

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Acupuncture, including electroacupuncture, is an important modality in Traditional Chinese Medicine (TCM). Acupuncture has been increasingly used in Europe and North America in the past forty years. Its widening acceptance demands continual safety assessment. This pilot study evaluated the frequency and severity of adverse events (AE) for electroacupuncture in a teaching clinic. Needle-only acupuncture has a documented high patient satisfaction rate and low adverse event (AE) rate. Patients in the University of Bridgeport Acupuncture Institute teaching clinic were recruited and randomly assigned to participate in the study and survey. 111 patients received acupuncture with electrical stimulation; 52 received acupuncture without electrical stimulation. Additionally, 135 student interns completed surveys about their experience with patient treatment and any adverse events that occurred during treatment. In the electrical stimulation acupuncture group there was a trend toward more pain and cramping reported than in the non-electrical stimulation acupuncture group. Of these two findings, only the cramping showed an effect size of greater than 0.2 and therefore only a small clinical difference. (P = 0.017.) Those patients not receiving electrical stimulation did trend toward being more relaxed about the procedure than those who participated in the electrical stimulation arm of the study. (P = 0.001). This difference was small and had no impact on patient satisfaction. Our study demonstrated that the satisfaction with and safety of electroacupuncture and needle-only acupuncture are similar.

P-80
PILOT STUDY ON TAI CHI/QIGONG SCIENTIFICALLY DESIGNED FOR PERIMENOPAUSAL/MENOPAUSAL WOMEN WITH SYMPTOMS REFRACTORY TO CONVENTIONAL MEDICAL THERAPIES

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For some women the transition to reproductive senescence can be difficult–mood disorder, poor sleep, cognitive changes, chronic fatigue, weight gain, and joint pain are common complaints. This pilot study evaluated the efficacy of a specifically designed program in mitigating/alleviating these problems. Nine women (mid 40's to early 60's) enrolled in a 1 hour/week Tai Chi/Qigong class for 10 weeks. Symptoms were reported to a physician at the beginning and end of the trial period. Blood perfusion/flow was measured as ''flux'' at the PC 8 acupoint on the palm with laser Doppler flowmetry. Pre-polarization conductance, regarded as a reflection of ''energy'', was measured at the LU11 acupoint on the thumb using Motoyama's single square voltage pulse method. The 1-hour Tai Chi/Qigong program in this study consisted of Chen Style Tai Chi silk reeling coordinated with deep breathing for elevating blood flow, calming the mind and sharpening mental focus; Chen Style Tai Chi fast movements for exercising fast muscle fibers, improving cardiovascular health, burning calories and stress relief; Qigong exercises (from 5 Animal Frolic, 8 Section Silk Brocade, Changing Tendon Qigong) for dynamic/static stretching of muscles/tendons/joints; intensive repetitive movements of Pan Gu qigong for increasing serotonin neuronal activity to enhance mood and sleep. At the end of the trial, all subjects reported a

reduction of stress, increased mental clarity, better sleep, less joint pain, and feeling energized. During silk reeling at 4-7 cycles/min., the subjects' blood flow elevated as a series of waves, averaging 230 plus/minus 74% of baseline measured before the exercise. Simultaneous measurement of pre-polarization conductance showed coordinated wave-like patterns. While considerable class time was devoted to learning the program, this pilot study showed encouraging results indicating that a scientific approach was effective in designing a Tai Chi/Qigong program aimed specifically at problems commonly encountered by perimenopausal/menopausal women.

P-81
PILOT STUDY: CAN AN AURICULAR ACUPUNCTURE PROTOCOL LOWER BLOOD GLUCOSE IN PATIENTS WITH TYPE 2 DIABETES

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Purpose: Diabetes is a major international health problem with an estimated 347 million people affected worldwide. Despite a long history of acupuncture treatment for diabetes like conditions, there has been little research published on the effectiveness and feasibility of auricular acupuncture treatment in the reduction of blood glucose in patients with type 2 diabetes. The purpose of this pilot study was to determine if an auricular acupuncture protocol could provide a feasible and effective treatment option for lowering blood glucose in persons with type 2 diabetes.

Methods: This study utilized an auto-control combined methods approach. Twenty eight participants diagnosed with type 2 diabetes were recruited for the study and received two weeks of treatment consisting of a set protocol of 5 points in each ear. The protocol used a combination of both needle and press seed/magnet techniques. Participants also completed pre and post treatment surveys to assess health status, treatment expectations and quality of life. Paired t-tests were used to determine pre- to post- treatment glucose levels.

Results: The treatment was associated with significant reductions in both fasting and post prandial blood glucose levels, with an average reduction of 45.35 (N = 19, p = .014) and 109.45 points (N = 10, p = .008) respectively. Survey results indicated that all participants would be interested in using the treatment again to help manage their blood glucose.

Conclusions: An auricular protocol such as one utilized in this study may offer a feasible and effective treatment for lowering blood glucose in patients with type 2 diabetes. In underserved communities the current treatment approach via pharmaceutical and/or lifestyle intervention is often too costly, impractical or contraindicated, therefore, finding an alternative treatment option is desirable. The results of this pilot study are promising and suggest that further investigation on a larger scale is warranted.

P-82
PM2.5 MASS CONCENTRATION AND OXIDATIVE CAPACITY OF MOXA SMOKE

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Purpose: Moxibustion is a therapy that burns moxa floss, which releases moxa smoke containing substantial fine particles (PM2.5) into the environment. Safety concerns have spawned about its potential health impact. This study aims to systemically study the PM2.5 mass concentration in moxibustion simulation clinic and compare the oxidative capacity of PM2.5 from burning moxa floss of different storage years and ratios to other outdoor environment in Beijing. Data from this study could be used to study the toxicity of fine particles and contribute to the safety evaluation of moxibustion.

Methods: Oxidative capacity of PM2.5 samples collected from moxibustion simulation clinics was measured by plasmid scission assay and the damage percentages were recorded under five dosage scales (100, 200, 300, 400, 500 μg mL-1). The percentage of DNA damage at dosage 500 μg mL-1 (D500) was calculated by linear regression analysis.

Results: The average PM2.5 mass concentration of samples A (3 year and 3:1 ratio), B (3 year and 15:1 ratio) and C (10 year and 3:1 ratio) was 224.28, 226.39 and 210.56 μg/m3, respectively. The D500 oxidative damage of PM2.5 was on average 29.42%, 29.16% and 27.01% for samples A, B and C, respectively. No significant difference was found in the PM2.5-induced oxidative damage by moxa smoke produced from the three types of moxa floss.

Conclusions: PM2.5 mass concentrations from the three types of moxa floss combustion exceeded international recommended air quality levels. The oxidative DNA damage induced by individual PM2.5 in moxibustion environment was far below that caused by PM2.5 collected during the heating and non-heating periods in Beijing outdoor environment, indicating that moxibustion-derived PM2.5 might not be as injurious to human health as generally assumed. The source-to-dose modeling and slope gradient analysis can be used as a model for future source- and spatial- specific moxibustion safety evaluation studies.

P-83
PROVOKED, LOCALIZED VULVODYNIA TREATMENT WITH ACUPUNCTURE AND LIDOCAINE FEASIBILITY PILOT STUDY PROTOCOL

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Provoked, localized vulvodynia (PLV) is a poorly understood female sexual pain disorder for which acupuncture's effectiveness is unknown. In this phase I study, our objective was to determine the feasibility and acceptability of adjuvant acupuncture with lidocaine as a treatment for PLV pain. We also aimed to estimate the effect size of acupuncture for a larger phase II, randomized, controlled trial. Thirty subjects with PLV, whose diagnosis was confirmed by a vulvar specialist, were recruited and randomized into two arms. Fifteen participants were randomly assigned to the classical acupuncture and lidocaine 5% cream group and fifteen to the non-classical acupuncture and lidocaine 5% cream group. Each participant was diagnosed according to Traditional Chinese Medicine (TCM) pattern. Sessions alternated between positioning the participant

supine and prone. The course of classical acupuncture was a semi-standardized protocol individualized according to TCM diagnosis. When supine, acupoints needled were: CV-3/Zhongli, ST-30/Qichong, LR-5/Ligou, and up to two additional points based on TCM diagnosis. All were manually stimulated. When prone, UB-43/Gaohuangshu, UB-32/Ciliao, UB-34/Xiaoliao, SP-6/Sanyinjiao were needled. Continuous electrical stimulation (100Hz) was applied to UB-32/Ciliao and UB-34/Xiaoliao for 30 minutes. The non-classical treatment was standardized minimal needling anteriorly and sham electro-acupuncture posteriorly on four acupoints each side. Non-classical acupoints were located away from classically described acupuncture points and vessels classically associated with vulvar pain. Participants were asked to attend 18 acupuncture sessions over a twelve-week period and follow-up at 24 weeks. The primary outcome measure was the change in tampon test pain score from baseline to week 12. Secondary outcomes were: to assess changes in pain reported with the cotton swab test; patient satisfaction; changes as measured by the Patient Reported Outcomes Measurement Information System questionnaires on global health, vaginal discomfort, pain intensity, sexual function, anxiety, depression, pain behavior and interference; and patient characteristics of TCM diagnosis.

P-84
"RESPONSIVE MANUALIZATION" OF ACUPUNCTURE THERAPY FOR CHRONIC PAIN IN URBAN PRIMARY CARE SETTINGS

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Purpose: Develop a study protocol that is structured, evidence-informed and replicable while also responsive to the evolving needs of individual patients in a large randomized trial comparing effectiveness of acupuncture therapy provided in individual sessions to that provided in group sessions for urban primary care patients with chronic pain.

Background: Pain is common and often undertreated especially in minority patients (Todd et al. 2000). Acupuncture therapy has been shown to be effective in treating chronic pain when given in individual practitioner-patient sessions (Vickers et al. 2012), however the urban poor are less able to access acupuncture services. While group acupuncture may offer an option, research has not directly compared group care vs individual session care for chronic pain. A responsive manualization is necessary to satisfy the structural needs of research consistency and replicability but also the clinical needs of practitioners to respond to real world evolving clinical presentations in different settings. (Citkovitz 2015).

Methods: Our previous research established feasibility to engage urban primary care centers in the study of acupuncture therapies for chronic pain delivered in individual sessions (McKee et al. 2013). Our pilot (120 subjects) demonstrates feasibility of treating chronic pain in a group setting (Kligler & Nielsen 2015). The Intervention manualization progressed informed by expert stakeholders, experienced clinicians and patients.

Results: A manual flow chart was structured to evaluate and treat specific chronic pain conditions treated in our previous trials; it can respond to evolving patient presentations in either setting.

Departures from structured interventions and their rationales are recorded; scheduled evaluations by stakeholders contribute to updating the structured but 'responsive manualization' of care.

Conclusion: A 'responsive manualization' can be structured to account for essential research requirements of consistency and replicability and also evolve within the study period to respond to real world clinical needs of practitioners and patients.

P-85
RETROSPECTIVE EVALUATION OF COMMUNITY (GROUP-BASED) ACUPUNCTURE: UTILIZATION AND CLINICAL OUTCOMES IN AN INTEGRATIVE ONCOLOGY HOSPITAL MODEL

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Background: Acupuncture utilization and evidence based medicine supporting the use of this therapy in the United States has increased in recent years. There is good research to support the use of this integrative modality with cancer patients to manage side effects often resulting from conventional therapy. Community acupuncture is a delivery model that is gaining popularity around the United States. Low cost implementation and ease of accessibility allow this model to serve a greater number of patients to receive treatment on a more frequent basis than the traditional one room private treatment model design. We decided to try Group Acupuncture at Cancer Treatment Centers of America (CTCA) to accommodate the growing demand for acupuncture with the resources available at that time without decreasing patient satisfaction or treatment efficacy.

Methods: Patients were given anonymous survey forms from March 2013 through August 2013 determining patients' level of satisfaction, frequency of treatment, QOL scoring metrics and clinical outcomes. The survey was given for information regarding that particular treatment on that particular day so that anonymity and therefore full patient disclosure would be possible. Patients eligible for group acupuncture were returning cancer patients to CTCA that were ambulatory and able to stay comfortably seated for at least 45 minutes in a zero gravity reclining chair. The group treatments were offered twice weekly (Tuesdays and Thursdays 3-5 pm; one class 3-4 pm and another 4-5 pm) with a maximum of 10 patients to each hour long session. The sessions were led by a licensed acupuncturist (L.Ac). EHR charting and documentation occurred at each visit.

Preliminary results: Based on scheduling design we had the availability to treat 400% more patients in utilizing the group acupuncture model of care as compared to the traditional private care model. Medical reasons for seeking acupuncture were similar to the scientific literature and the patients receiving group acupuncture had earlier stage disease based on the eligibility criteria. We expected patient satisfaction levels to be high due to the ability to receive more frequent treatments in managing symptoms. Patients interested in group acupuncture reported they enjoy the social interaction that the model represents. Evaluation of past research led us to believe that treatment efficacy would match efficacy in the private setting as well. The purpose of patient survey was to find out how to best accommodate our patients without sacrificing efficacy of treatment. It was also necessary to have documentation of success in order to establish Group Acupuncture as a best practice at CTCA and possibly at other CTCA sites in the United States.

Conclusions: Group Acupuncture is a model of care that has good application to improve patient care and meets the space

challenges often present in an integrated oncology hospital environment.

P-86
RETROSPECTIVE STUDY OF A DROP IN GROUP ACUPUNCTURE CLINIC WITHIN A CHINESE MEDICINE COLLEGE

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Statement of Purpose: Data was gathered retrospectively on 388 patients to assess the utilization rates and primary reasons this population sought out acupuncture treatment. This data was analyzed to assess the feasibility of a controlled research project to investigate the impact of group acupuncture as a viable method to address chronic pain and related conditions.

Outline of Methods: A mixed methods approach was used to collect and analyze data spanning an eight-month period, January 2015 through August 2015, from patient files. The parameters collected included chief complaint, secondary complaint, gender, sexual orientation, ethnicity, age, income, housing status, and frequency of clinic visits. Analysis of utilization rates and the most frequently treated conditions was undertaken.

Summary of Results: 75% of the patients indicated an income level below federal poverty guidelines. 32% indicated a disabling condition. 45% indicated pain as being the primary reason of seeking out treatment with back, shoulder, and neck pain being the top three. Stress, anxiety, and insomnia were the second most frequently mentioned reasons for seeking help. This community-based clinic provides acupuncture treatment for a group of patients that regularly come for treatment. The data indicates that 46% of current patients access acupuncture treatment on a weekly basis. This population is primarily housed within 2 miles of the clinic. This group of frequent visitors to the clinic would be a stable population to engage in a controlled study.

Conclusions: The data indicates feasibility to conduct a controlled pilot study to investigate the use of acupuncture for pain control and related conditions in a drop-in community-based acupuncture clinic. This study could examine the effectiveness of offering non-pharmaceutical treatment for pain control that can be offered in a cost effective, easy access community-based setting.

P-87
SENSITIZED ACUPOINTS IN GASTRIC MUCOSAL INJURY IN THE RAT MODEL DISPLAY HIGH EXPRESSION OF NOCICEPTIVE NEUROPEPTIDES

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Visceral injury has been shown to alter somatic sensitivity. But little is known about the changes in somatic sensitized locations. Acupoints have been hypothesized to have some neuro-anatomical correlations with viscera. However the micro-environmental changes in local acupoints remain unknown. The purpose of this study was to observe the kinetic distributions of extroavasted Even's Blue (EB) points and its histochemical changes due to gastric mucosal injury (GMI). Immunohistochemistry analysis was used to observe the expression of HA and 5-HT and nociceptive neuropeptides of calcitonin gene-related peptide (CGRP) and substance P (SP) in the extravasated EB dots. Mast cells were labeled by anti-mast cell tryptase antibody and simultaneously by HA or 5-HT primary antibodies to observe the co-expression. Neurogenic plasma extravasation of EB induced by acute GMI was distributed in the skin over the back and abdomen which was mostly innervated by T9-11 dermatomere. The dots appeared with GMI and disappeared gradually during the naturally self-recovery of gastric mucosa. The correlation rates between EB dots and acupoints were BL20: 88.23%, BL21: 82.35%, DU6: 58.82%, BL17: 47.5%, RN12: 17.64%, RN13: 5.88% respectively. Furthermore nociceptive neuropeptides of SP and CGRP were higher expressed in extravasted EB dots and distributed mostly in the nerve fibers around the vessels and the root of the hair follicle. Meanwhile, mast cells gathered, degranulated and released HA and 5-HT around the vessels in the extravasted EB dots. The extravasated dots are likely indications of sensitized acupoints, which responsed kinetically to related disease and highly expressed nociceptive neuropeptides.

P-88
SENSORIMOTOR LEARNING OF ACUPUNCTURE NEEDLE MANIPULATION USING VISUAL FEEDBACK

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Objective: Humans can acquire a wide variety of motor skills using sensory feedback pertaining to discrepancies between intended and actual movements. Acupuncture needle manipulation involves sophisticated hand movements and represents a fundamental skill for acupuncturists. We investigated whether untrained students could improve their motor performance during acupuncture needle manipulation using visual feedback (VF).

Methods: Twenty-one untrained medical students were included, randomly divided into concurrent (n = 10) and post-trial (n = 11) VF groups. Both groups were trained in simple lift/thrusting techniques during session 1, and in complicated lift/thrusting techniques in session 2 (eight training trials per session). We compared the motion patterns and error magnitudes of pre- and post-training tests.

Results: During motion pattern analysis, both the concurrent and post-trial VF groups exhibited greater improvements in motion patterns during the complicated lifting/thrusting session. In the magnitude error analysis, both groups also exhibited reduced error magnitudes during the simple lifting/thrusting session. For the training period, the concurrent VF group exhibited reduced error magnitudes across all training trials, whereas the post-trial VF group was characterized by greater error magnitudes during initial trials, which gradually reduced during later trials.

Conclusions: Our findings suggest that novices can improve the sophisticated hand movements required for acupuncture

needle manipulation using sensorimotor learning with VF. Use of two types of VF can be beneficial for untrained students in terms of learning how to manipulate acupuncture needles, using either automatic or cognitive processes.

P-89
THE BENEFITS OF ACUPUNCTURE TO THE MANAGEMENT OF TEMPORAL MANDIBULAR DYSFUNCTION: A CASE STUDY

Peter Shipka and Aaron Teitelbaum

Objective: The purpose of this study is to discuss the management and outcome of temporal mandibular joint dysfunction utilizing an integrated approach which includes acupuncture and chiropractic care.

Introduction: Temporal mandibular joint dysfunction (TMD/TMJ) is the term used to describe acute or chronic dysfunction of the joint between the temporal bone and the mandible.

Clinical Features: A 43 year old female presented to a chiropractic clinic complaining of severe jaw, headaches and neck pain. The ''lock jaw'' had been present for greater than 6 weeks and had restricted her jaw opening to less than 18mm.

Outcome: An initial session of acupuncture and chiropractic manipulation provided significant improvement and a series of follow up visits saw a serious reduction of symptoms and open distances. Dental appliance modifications were also done. A comparative analysis of the anatomical structures and the super imposed acupuncture points revealed that the points directly influenced branches of the trigeminal nerve and resulted in the improved outcome.

Conclusion: Healthcare providers who see temporal mandibular dysfunction patients should consider an integrated and holistic approach to TMD management.

P-90
THE EFFECTS OF DEQI OF NEEDLING SP6(SANYINJIAO) ON FMRI OF PATIENTS WITH PRIMARY DYSMENORRHEA IN COLD AND DAMPNESS STAGNATION PATTERN: STUDY PROTOCOL FOR A RANDOMIZED CONTROLLED TRIAL

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Background: ''Deqi'' is generally considered as the key to acquire clinical efficacy of acupuncture. In previous research, our team has preliminarily verified deqi has better immediate analgesia effect when needling SP6. This research utilizes the fMRI technology to explore the effects of deqi on cerebral function when needling SP6 in Patients with Primary Dysmenorrhea in Cold and Dampness Stagnation Pattern.

Methods and Design: This study protocol of randomized controlled trial will recruit 24 patients meeting the inclusion criteria and randomly allocate them into Expect Deqi Group (ED) or Expect No Deqi Group (END) in a 1:1 ratio. The participants will receive acupuncture at right SP6 on the first day of menstruation. We will take a 5-minute fMRI scan before and after the interventions, and an 8-minute fMRI scan under intervening. ED will apply BLOCK design and receive the intervention of thick silver needle with deep inserting and manipulating for qi. END will receive intervention of fine silver needle with superficial inserting and without manipulating. After the treatment, we will perform a secondary assessment by a self-designed deqi assessment scale to judge the condition of deqi (real or fake). This research is aimed at observing cerebral function of fMRI, such as local cerebral blood flow, pattern and intensity of functional connectivity network of brain. The fMRI data will be analyzed with the help of AFNI software to detect brain regions of activation or deactivation. This research utilizes the methods based on interested brain regions to analyze and draw map of the functional connectivity network of the point with activated or deactivated brain regions, and to compare the differences between ED and END.

Discussion: Results from this study will preliminarily provide objective evidence of fMRI for the research of effective mechanisms of deqi.

P-91
THE EFFECTS OF ELECTROACUPUNCTURE ON ANALGESIA AND PERIPHERAL SENSORY THRESHOLDS IN PATIENTS WITH POST-BURN SCAR PAIN

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Purpose: Are the effects of electroacupuncture (EA) on analgesia and peripheral sensory thresholds transposable from the model of thermal pain [1] to clinical post-burn pain? Pathological post-burn scars (PPBS) may occur with excruciating pain that poorly respond to treatment and prevent patients from wearing their pressure garments, thereby leading to unaesthetic and function-limiting scars. EA might be beneficial for analgesia and functional recovery, should it interrupt this vicious circle by counteracting the peripheral and central hyperalgesia characterizing PPBS [2].

Methods: 32 painful adults with PPBS received 3 weekly sessions of EA. We assessed VAS for pain and Quantitative Sensory Testing (QST) twice: 1 week before and 1 after protocol. QST [3] measured electrical thresholds for stimulus detection (Aβ), pain perception (Aδ) and pain tolerance (C) in dermatomes from the PPBS and from the controlateral pain-free areas. EA consisted in 15 min sessions at the extremity of the meridian flowing through PPBS (300 μs, 5 Hz, subnoxious intensity) and at the metameric corresponding back-Shu points. VAS reduction of 3 points or below 3 was considered clinically relevant. Paired t-test compared thresholds (mean [SD]) and Wilcoxon test compared VAS (median [IQR]) pre and post-treatment, significant $p < 0,05$.

Results: Pain reduction reached statistical but not clinical relevance (6,8 [3] vs.4,5 [3,6]) because VAS did not change in a subgroup of 14 non-responders (6,6[2,7] vs. 7,2[3,8]). Responders exhibited pain fibers hypersensitivity only in the affected dermatome that corrected post-treatment. In non-responders, hypersensitivity was generalized even in the pain-free dermatome and did not correct after EA.

Conclusions: This observational study is the first that confirms the effects of EA on analgesia and nociceptive thresholds in the clinical setting of post-burn pain only for patients presenting with a

burn-localized but not a generalized hyperalgesia. [1]. BMC 2008 [2]. Muscle Nerve. 2012 [3]. Anesthesiology, 2003.

P-92
THE EFFECTS OF LASER ACUPUNCTURE ON BLOOD FLOW, BODY TEMPERATURE, AND BIOPHOTON EMISSION

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Acupuncture points are traditionally stimulated mechanically by needles, but they can also be affected by electrical pulses, chemicals, heat, and light. We have been using laser acupuncture on ST35 of patients with knee disorders, successfully relieving pain and inflammation and improving mobility. In this study, we investigated whether this treatment is associated with improved blood flow and bioenergy measured as biphoton emission. A dozen healthy subjects age 20's-60's were used in this pilot study. First, blood flow/perfusion was measured as ''Flux'' with laser Doppler flowmetry (Moor DRT4 instrument) at an acupoint (PC8, ST35) before and after a 20-minute treatment with a 660nm laser probe of a Low Level Laser Therapy device (Omega XP Mobile from Softlaser) set in standard mode and pulse rate of 10,000. The effect on Flux by the laser treatment was quite variable way, ranging from an increase of 0–100%. This compares with a reliable increase of 20–40% following exposure at a distance of 7 inches from an infrared heat lamp (Model KS9800 TDP Mineral Lamp from Chongqing Hyanyu Medical Equipment Co.) or a far infrared instrument (Model TY-101N WS Far Infrared Therapy Unit from WS Far IR Medical Technology Co.) for the same amount of time. Next, the laser treatment on the entire palm increased biophoton emission measured with a single photon counting system by around 20% compared to 20–60% with infrared and far infrared treatment. Finally, laser treatment increased skin temperature at the treated area by 2-3 degrees Celsius, compared to 3-5 degrees from infrared and far infrared exposure. The results of this study suggest that laser acupuncture could increase blood perfusion and energy metabolism by a small amount, but additional experiments need to be done to determine whether these changes are simply due to heating up of the tissue by the laser.

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THE IMPACT OF ACUPUNCTURE TREATMENT ON THE UTILIZATION OF OTHER HOSPITAL SERVICES AT AN URBAN SAFETY-NET HOSPITAL

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Background: Little is known regarding the interaction between acupuncture and bio-medical healthcare, particularly when offered to vulnerable patient populations. Furthermore, the relationship between number of acupuncture visits and total cost of care has not been characterized.

Methods: We performed a retrospective review of total hospital visits and associated charges among patients who had free acupuncture at a large safety-net hospital 2006–2013. Inclusion criteria were defined as: 18 years of age, diagnosis of chronic pain, and Medicare or Medicaid insurance. Patients were stratified into 5 groups based on number of acupuncture visits: 1-3, 4-6, 7-9, 10-12, 13-15 treatments. The total number of hospital visits and total associated costs were compared 6 before and 6 months after initiating acupuncture. This research was IRB approved.

Results: 329 patients met our inclusion criteria. Patients with 1-3 treatments (N=222) incurred a mean $2,415.35 increase in total charges after initiating acupuncture (p=.558), whereas patients with more than 3 acupuncture treatments (N=107) demonstrated a net mean $1,809.79 decrease in total charges after initiating acupuncture (p=.398). The average savings per patient was greatest for those receiving 10-12 acupuncture treatments (N=12): $14,013.86 (p=0.353). Acupuncture interventions may decrease total costs by helping to manage chronic pain effectively.

Conclusion: This study suggests that offering free acupuncture is not likely to increase the total cost of care. Further research is warranted to determine if this safe, affordable modality may in fact decrease total costs, particularly among vulnerable populations. In addition, this study suggests a previously unreported relationship between number of treatments and total health care costs. Further study is warranted to best guide practitioners and hospitals to design efficacious, high value integrative medicine programs.

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THE OPINIONS OF PRACTITIONERS OF CHINESE MEDICINE AND ACUPUNCTURE ON THE EMERGENCE OF INTEGRATIVE MEDICINE

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1. This study examines the opinions of U.S- based practitioners of Chinese Medicine (CM). The study asked CM practitioners to define the term integrative medicine (IM). Participants were also were also asked to reflect on the role of CM within contemporary health care in the United States, the impact this may have on patient care, and the future of CM as a part of IM.

2. This is a mixed methods study. This study recruited CM practitioner (n=96) from U.S professional association networks. Data was gathered via online surveys.

3. While some CM practitioners in this study voiced optimism and an interest in working in IM settings, others equated the opportunity for integration with loss of CM traditions, compromise to CM, and professional subordination. While CM practitioners are fully trained to practice a complete system of

medicine, acupuncture alone is most frequently the modality that is utilized in IM settings. Practitioners were of the opinion that skills, training, knowledge, and experience that are included in patient care remain underutilized in IM settings. They also had concerns about maintaining the distinct philosophy and practices that constitute Chinese medicine as a whole system of care.

4. The recommendation from this study is that the current hierarchical structure that exists in many IM settings open up to the possibility that CM can provide a range of treatment options for patients that conventional medicine cannot. The contribution that CM practitioners could bring to the developing field of IM holds great potential. The majority of CM practitioners that were surveyed agreed that the health care field in the United States is expanding and this offers opportunities for ongoing development of the Chinese medicine profession in the United States.

P-95
THE SPECIAL LIBRARY DEVELOPMENT CONSIDERATIONS FOR TRADITIONAL CHINESE MEDICINE KNOWLEDGE TRANSFER, ITS COMMUNITY BUILDING

Benjamin Branch, Han Institute; Angelica Kokkalis, Han Institute

This abstract centers around the data support and proposes that embedded librarianship, health library support towards literacy of TCM or Oriental, or East Asian medicine can aid areas of clinical research, basic science and research. Methodology pertaining to acupuncture and other modalities of East Asian medicine may include such considerations. We intend to draft a framework using The Han Institute (www.han-institute.com), Zhejiang Chinese Medical University and library expertise from John Hoskins University Medical Library as community building rationale. We are looking to design a data theoretical workflow of TCM, clinical support, research and data support that may advance knowledge transfer and data sharing for TCM efficacy. This will be a first draft version that we will continue to prototypes working framework for further embedded librarianship for TCM research and engagement. We will generate a diagram and survey of major research pathways in TCM from a literature review. We will then propose practical workflow for a clinical and research data support from health library support. This phase 1 effort is to build a set of constructs and rationale for this concept and seek feedback as towards its validity. This work seeks to identify the best possible means of justification for TCM knowledge transfer via health librarian support. Such work is targeted to generate community building among health library professionals in the form of research survey. Our conclusions will be around some of the major TCM successes such as progressions in pain, neuroscience or addiction.

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TRADITIONAL CHINESE MEDICINE DIFFERENTIAL DIAGNOSIS IN CHILDREN WITH CANCER

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Purpose: Traditional Chinese Medicine (TCM) uses distinct patterns of disharmony to diagnose conditions associated with explicit signs and symptoms. Traditionally, these patterns, along with presenting symptom(s) and patient constitution, would determine acupuncture point prescriptions. However, most clinical trials have examined the efficacy of acupuncture based on a pre-selected point prescription for a specified symptom. Few studies have considered differential diagnosis. As a result, little is known about the relationship between TCM differential diagnosis and treatment outcomes. We present the results of a prospective study that evaluated TCM patterns in children and adolescents undergoing cancer treatment who received acupuncture for symptom management.

Methods: Eligible participants (N = 90) were acupuncture-naïve children and adolescents with cancer and receiving treatment. 49 of the 90 children requested acupuncture for symptom management. Information on patient demographics, side-effects/chief complaints, and TCM pattern were recorded. 71 reported side effects were classified by TCM diagnostic criteria (TCM organ system, pathological factors and vital substances).

Results: 252 treatments of acupuncture were delivered to 49 children (median age 14 (range 1–23)) over the study period. Among the most frequently reported side-effects, an average of 9.5 TCM diagnoses were identified. The side-effects with the greatest diagnostic differential included abdominal pain (15), anxiety/fear (14), headache (11), nausea/vomiting (10), insomnia (10) and fatigue (9). The differential diagnosis led to variable TCM treatment principle and interventions. This included treatments with unique point selections and number of needles chosen.

Conclusions: Our results demonstrate that a variety of TCM diagnoses are associated with the same symptom denoted by conventional medicine. TCM diagnosis resulted in wide variability of the TCM treatment plan and led to variable use of acupuncture points. Our results suggest that considering TCM diagnostic criteria may be important in the delivery of TCM treatment for children with cancer and may have an impact on treatment outcomes.

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TRADITIONAL CHINESE MEDICINE PATTERN DIAGNOSES AMONG WOMEN WITH MENOPAUSAL HOT FLASHES

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Background: In traditional Chinese medicine (TCM), a patient's pattern diagnosis informs treatment decisions, including acupuncture point selection. The distribution of pattern diagnoses among women with menopausal hot flashes is not known.

Purpose: We report the pattern diagnoses ascribed by experienced acupuncturists to 170 women with menopausal hot flashes who participated in the active treatment arm of a randomized controlled trial of acupuncture for menopausal hot flashes.

Methods: Each study participant underwent a baseline clinical evaluation by 1 of 4 acupuncturists trained in the TCM

tradition. The baseline evaluation included a clinical history, radial pulse palpation, and visual inspection of the tongue. Each study participant was ascribed 1 primary and up to 2 secondary pattern diagnoses which informed the acupuncture point selection for the first of up to 20 acupuncture treatment sessions administered to each participant over the course of 6 months. The study protocol permitted changes in TCM pattern diagnoses and acupuncture point selection at each acupuncture session.

Results: The distribution of primary pattern diagnoses at the time of the initial visit with a study acupuncturist was: kidney yin deficiency (n = 79, 46%); kidney yin and yang deficiency (n = 59, 35%); kidney and heart not harmonized (n = 11, 6%); other (n = 21, 12%). Secondary pattern diagnoses were: kidney and heart not harmonized (n = 57, 34%); kidney/liver yin deficiency with liver yang rising (n = 18, 11%); other (n = 71, 42%); no secondary diagnosis (n = 24, 14%).

Conclusion: The vast majority of women with menopausal hot flashes appear to have either kidney yin deficiency or kidney yin and yang deficiency, but many other TCM pattern diagnoses are prevalent in this population. Future analyses of these data will explore whether pattern diagnosis predicts clinical response to acupuncture.

P-98
TREATING CONNECTIVE TISSUE DISORDERS WITH ACUPUNCTURE: THE CASE FOR EHLERS-DANLOS SYNDROME

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Background: The hereditary disorders of connective tissue (HDCT) comprise conditions that include: joint hypermobility syndrome (JHS), the Ehlers Danlos syndromes (EDS) and Marfan syndrome (JHM); they all present with particular co-morbidities and characteristics. This retrospective case review is centered primarily on EDS III (hyper mobility) and associated pain conditions. There are no RCT trials on acupuncture and EDS, however in previous studies acupuncture has been shown to decrease chronic pain, and improve general health status and Quality of life (QoL). Acupuncture can be safely used with EDS III patients as an adjuvant therapy to the medical standard of care treatment and rehabilitation. Acupuncture may also increase resistance, endurance in exercise and improve other conditions resulting from EDS connective tissue pathologies.

Objective: To review four cases seen at the author's private practice between 2012 and 2015 to analyze commonalities and further understand the disease treatment from a TCM point of view.

Methods: Two adult and two pediatric cases were reviewed. The four cases were compared for pain management, comorbidities, similar presenting symptoms, TCM diagnoses, point prescription, outcomes and future plans.

Results: Both pediatric patients showed a noticeable decrease in pain levels and positive changes in insomnia, anxiety and general health. Their parents reported improvement in QoL and better attention span at school. The adult patients showed improvement in pain and depression scales, but other conditions remained stable during the treatments.

Conclusions: Acupuncture has a good body of evidence in treating pain favorably. In this review, the results are consistent with previous evidence. In addition the treatments improved the patients' QoL substantially. There is a compelling need to design a statistically significant randomized controlled study to be able to draw objective conclusions about the use of acupuncture to manage the symptomatology and increase QoL in EDS III patients.

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TREATING INFERTILITY WITH ACUPUNCTURE AND MOXIBUSTION: A CLINICAL REVIEW

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Infertility is becoming a serious problem in recent years, which worries not only the young couple but their whole family. There are so many causes to infertility, so are solutions, however, neither drug therapy nor artificial insemination treatment could guarantee a relatively high effective rate, furthermore, western medications have lots of unavoidable side effects. Chinese Medicine has a great advantage of more therapeutic effect and less negative consequence, yet it takes courage to persist in having herbs decoction for a really long course, for this reason, acupuncture and moxibustion might be the best substitute therapy for infertility. The objective of this article is to introduce various methods of acupuncture and moxibustion for the treatment of infertility based on a review of Chinese databases.

P-100
TRUSTWORTHINESS IN ECONOMIC AND MEDICAL DECISION-MAKING PROCESS

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Trustworthiness influences decision-making process in social interactions. Numerous studies have illustrated that decisions are influenced by facial impressions of others. The patients' decision to receive treatments might be affected by the impression of the doctor. We investigated the difference in the effect of trustworthiness in economic and medical decisions from facial impressions of doctors in an experimental setting using an expanded version of trust games.

Participants played two versions of computerized trust games with hypothetical doctors. First, participants made decisions about how much they trust the doctor on the screen, of which the trust level was measured by whether they made the investment or not. In the second version, participants first received a fixed amount of pain and made decisions on how much they trust the doctor to treat their pain. The level of trust given to the doctor were measured by whether they took the medicine which reduced the pain to a fixed amount or chose to be treated by the doctor, who either reduced the pain more than or the same as the medicine. After two sets of trust games, the participants were asked to rate the trustworthiness of each doctor. The analysis showed that the choice to make the investment as well as to receive the treatment was made more as the trustworthiness of doctor's face increased. The difference in medical decisions between the highest and lowest quantile of doctors was greater than that of economic decisions. Trustworthiness of the doctor affected both economic and medical decisions in the trust game. It had a greater influence on the participants in medical decision-making situation than in economic decision-making situation.

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TUINA FOR CHRONIC NECK PAIN:
A RANDOMIZED CONTROLLED TRIAL

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Objective: We aimed to evaluate whether tuina is more effective and cost-effective than no intervention in reducing neck pain measured on a visual analogue scale in patients suffering from chronic neck pain.

Methods: We performed an open single-centre randomized two-armed controlled trial at a University out-patient clinic specialized in Integrative Medicine, with experience in the treatment of chronic pain. Patients with chronic neck pain were randomly allocated to two groups (tuina and no intervention control) to receive either six tuina treatments within 3 weeks performed by a German physiotherapist with two years of tuina training and eight years of expertise in tuina therapy or no additional intervention. Outcomes were measured after 4 and 12 weeks. The primary outcome is the mean neck pain intensity over the last seven days on a visual analogue scale (VAS, 0–100 mm, 0 = no pain, 100 = worst imaginable pain) after 4 weeks. Secondary outcomes include Neck Pain and Disability Scale (NPDS), Neck Disability Index (NDI), SF-12 health related quality of life, medication intake, and costs.

Results: A total of 92 outpatients were included (46 tuina and 46 no intervention control, 87% female, mean age 45.40 ± 9.69, mean VAS 57.66 ± 11.54). We currently analyze the data and will present it at the congress.

Trial Registration: ClinicalTrials.gov, ID: NCT01923493

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