Acupuncture and East Asian Medicine in Palliative Care

Zeyiad Elias, DAOM, RAc

Henry Ford Health System
Center for Integrative Medicine
Conflict of Interest

No conflict of interest to declare.
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Agenda

- CAM usage
- Components of EAM
- Brief History of EAM
- Research
Clarke et al., 2015

Prevalence of complementary health approaches among adults

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2007</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence</td>
<td>32.3%</td>
<td>35.5%</td>
<td>34.0%</td>
</tr>
</tbody>
</table>
Nahin et al., 2012

Out-of-Pocket Spending on Complementary Health Approaches in the U.S.

Total Health Care Spending, 2012
$2.82 trillion

- Conventional Out-of-Pocket*: $328.8 billion
- Reimbursed**: $2.46 trillion
- Complementary Health Approaches Out-of-Pocket: $30.2 billion

Other Conventional Care**: $225.1 billion
- Physician Visits*: $48.6 billion
- Prescription Drugs*: $54.1 billion
- Complementary Practitioner Visits: $14.7 billion
- Nonvitamin, Nonmineral Natural Products: $12.8 billion
- Self-Care Purchases*: $2.7 billion
Nahin et al., 2012

Out-of-Pocket Spending on Physician Visits vs. Complementary Practitioner Visits

- Physician Visits*: $49.6 billion
- Complementary Practitioner Visits: $14.7 billion
Nahin et al., 2012

Out-of-Pocket Spending on Prescription Drugs vs. Natural Products

- Prescription Drugs*: $54.1 billion
- Natural Products: $12.8 billion
Nahin et al., 2012

Income and Out-of-Pocket Spending on Complementary Health Approaches

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Average Spending on Complementary Health Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0–$24,999</td>
<td>$435</td>
</tr>
<tr>
<td>$25,000–$49,999</td>
<td>$448</td>
</tr>
<tr>
<td>$50,000–$99,999</td>
<td>$505</td>
</tr>
<tr>
<td>At or above $100,000</td>
<td>$590</td>
</tr>
</tbody>
</table>
HISTORY
Synonyms

- Chinese Medicine
- Traditional Chinese Medicine
- Classical Chinese Medicine
- Oriental Medicine
- East Asian Medicine
Chinese Medicine (CM) is > 2000 years old
Whole system of medicine
Teacher to disciple

(Ross, 2014)
Components

Herbal Medicine

Acupuncture

Tui Na

Nutrition

Exercise
Mao Zedong
Department of Chinese Medicine, 1954
Educational institutions were established
- Shanghai College of TCM
- Beijing College of TCM
- Chengdu College of TCM
- Guangzhou College of TCM
- Nanjing College of TCM

(Zhenshi, 1957)
James Reston, 1971
- Reporter for the New York Times
- Appendicitis
- Post-op pain
- Received acupuncture instead of pain killers

(University of Illinois, University Archives)
Now, Let Me Tell You About My Appendectomy in Peking...

Continued From Page 1, Col. 8

ber thinking that it was rather a complicated way to get rid of gas on the stomach, but there was a noticeable relaxation of the pressure and distension within an hour and no recurrence of the problem thereafter.

I will return to the theory and controversy over this needle and herbal medicine later. Meanwhile, a couple of disclaimers.

Judging from the cables reaching me here, recent reports and claims of remarkable cures of blindness, paralysis and mental disorders by acupuncture have apparently led to considerable speculation in America about great new medical breakthroughs in the field of traditional Chinese needle and herbal medicine. I do not know whether this speculation is justified, and am not qualified to judge.

Hardly a Journalistic Trick

On the other side, it has been suggested that maybe this whole accidental experience of mine, or at least the acupuncture part of it, was a journalistic trick to learn

James Reston, in dark shirt, visited a hospital in Thao Yang two weeks ago and was shown charts detailing the acupuncture points in the human body. Last week, in Peking, Mr. Reston experienced that treatment first-hand.

puncture in overcoming post-operative constipation by putting barium in a patient's stomach and observing on a fluoroscope how needle manipulation in the limbs produced movement and relief in the intestines.

Even the advocates of Western medicine believe that necessity has forced innovation and effective development of traditional techniques.

Mr. Snow quotes Dr. Hau Hung-ta, a former deputy director of the hospital, as saying: “Diseases have inner and outer causes. The higher nervous system of the brain affects the general physiology.”

Professor Li said that despite his reservations he had come to believe in the theory that the body is an organic unity, that illness can be caused by imbalances between organs and that stimulation from acupuncture can help restore balance by removing the causes of congestion or antagonism.

Dramatic Cures Reported

The controlled Chinese press is reporting on cases that go well beyond the relief of pain in the orthopedical

(New York Times, July 26, 1971)
TRENDS
Singer et al., 2015

- Observational study
- Pain intensity and symptom prevalence
  - 1998 to 2010
  - 7,204 participants
- Proxy reports during the last year of life
“Despite national efforts to improve end-of-life care, proxy reports of pain and other alarming symptoms in the last year of life increased from 1998-2010.”
RESEARCH
Is there a role for acupuncture in the symptom management of patients receiving palliative care for cancer?

- Pilot Study
- 20 patients comparing acupuncture with nurse-led supportive care
Lim et al., 2011

Symptoms Assessed

- Pain
- Tiredness
- Depression
- Nausea
- Anxiety

- Drowsiness
- Appetite
- Well-being
- Dyspnea
Lim et al., 2011

- 1x Week for four weeks
- Acupuncture
  - 15-30 points
  - With electro-stimulator for 20 minutes.
- Nurse-led supportive care
  - Discussion, counseling, coping strategies
  - Conveyed concerns to palliative care team
Total ESAS Score
Lim et al., 2011

- All nine symptoms assessed improved immediately after acupuncture.
  - Improvement continued in six of the symptoms after 6 weeks.

- Six symptom scores improved immediately after nurse-led supportive care.
  - Improvement continued in all nine symptoms after 6 weeks.
“The success of acupuncture in improving multiple symptoms simultaneously makes it an attractive option for use along with current conventional therapies.”
Acupuncture to Treat the Symptoms of Patients in a Palliative Care Setting

- Pilot Study
- 26 patients
Romeo et al., 2015

Symptoms Assessed

- Pain
- Tiredness
- Depression
- Nausea
- Anxiety
- Drowsiness
- Appetite
- Well-being
- Dyspnea
Romeo et al., 2015

Change Following Treatment (%)
Romeo et al., 2015

Change Following Treatment (%)
Romeo et al., 2015

Change Following Treatment (%)
7 of the 9 symptoms showed significant improvement with acupuncture.

“Acupuncture was found to be effective for the reduction and relief of symptoms that commonly affect patient QOL.”
PAIN
Acupuncture for Aromatase Inhibitor-Induced Arthralgia

Systematic Review
- 4 RCTs

Outcomes
- Validated pain questionnaires and inventories
All acupuncture groups demonstrated a significant reduction in pain.

“The systematic review suggests that acupuncture has potential benefits to improve arthralgia caused by AIs”
Chiu et al., 2016

- Systematic review and meta-analysis of acupuncture to reduce cancer-related pain
- 36 trials and 2213 participants in total
- “…acupuncture significantly mitigated cancer-related pain in cancer patients, particularly malignancy-related and surgery-induced pain.”
CHEMO INDUCED N/V
Malassiotis et al., 2007

- The effects of P6 acupressure in the prophylaxis of chemotherapy-related nausea and vomiting in breast cancer patients
- Two-armed, RCT
  - Acupressure (N = 17)
  - Control (N = 19)
- Measures
  - Rhodes Index of nausea, vomiting and retching
Malassiotis et al., 2007

Figure 2
Total scores for nausea, vomiting and retching experience between the control and experimental group.

Nausea $P < 0.001$, Vomiting $P < 0.06$, Retching $P < 0.001$
Malassiotis et al., 2007

Figure 3
Total nausea, vomiting and retching occurrence scores between the control and experimental group.

Nausea $P < 0.001$, Vomiting $P < 0.05$, Retching $P < 0.05$
Malassiotis et al., 2007

Figure 4
Total nausea, vomiting and retching distress scores between the control and experimental groups.

Nausea $P < 0.001$, Vomiting $P < 0.001$, Retching $P < 0.001$
Rithirangsririroj et al., 2015

- Efficacy of acupuncture in prevention of delayed chemotherapy induced nausea and vomiting in gynecologic cancer patients
- Two-armed, crossover, RCT
  - Acupuncture to Ondansetron (N = 35)
  - Ondansetron to Acupuncture (N = 35)
- Measures
  - Complete response rate
  - Acute emetic control
  - Functional Assessment of Cancer Therapy QOL Questionnaire
### Table 1
Emetic control.

<table>
<thead>
<tr>
<th></th>
<th>Acupuncture N = 70</th>
<th>Ondansetron N = 70</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute emetic control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete control</td>
<td>49 (70%)</td>
<td>49 (70%)</td>
<td>1.00</td>
</tr>
<tr>
<td>No emesis</td>
<td>56 (80%)</td>
<td>59 (84.3%)</td>
<td>0.58</td>
</tr>
<tr>
<td>No nausea</td>
<td>52 (74.3%)</td>
<td>50 (71.4%)</td>
<td>0.80</td>
</tr>
<tr>
<td>Emetic episode, median (range)</td>
<td>0 (0–20)</td>
<td>0 (0–6)</td>
<td>0.26</td>
</tr>
<tr>
<td>Nausea score, median (range)</td>
<td>0 (0–9)</td>
<td>0 (0–8)</td>
<td>0.91</td>
</tr>
<tr>
<td><strong>Delayed emetic control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete control</td>
<td>37 (52.8%)</td>
<td>25 (35.7%)</td>
<td>0.02</td>
</tr>
<tr>
<td>No emesis</td>
<td>52 (74.3%)</td>
<td>49 (70%)</td>
<td>0.55</td>
</tr>
<tr>
<td>No nausea</td>
<td>38 (54.3%)</td>
<td>24 (34.3%)</td>
<td>0.004</td>
</tr>
<tr>
<td>Emetic episode, median (range)</td>
<td>0 (0–4)</td>
<td>0 (0–10)</td>
<td>0.04</td>
</tr>
<tr>
<td>Nausea score, median (range)</td>
<td>0 (0–7)</td>
<td>3 (0–8)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Complete control = no emesis, no nausea and no requirement of additional antiemetic drugs.
<table>
<thead>
<tr>
<th>FACT-G</th>
<th>Acupuncture N = 70</th>
<th>Ondansetron N = 70</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWB</td>
<td>18.9 ± 5.3</td>
<td>18.0 ± 4.7</td>
<td>0.06</td>
</tr>
<tr>
<td>SWB</td>
<td>21.2 ± 4.3</td>
<td>20.6 ± 4.6</td>
<td>0.05</td>
</tr>
<tr>
<td>EWB</td>
<td>18.5 ± 3.4</td>
<td>18.3 ± 3.3</td>
<td>0.58</td>
</tr>
<tr>
<td>FWB</td>
<td>17.5 ± 4.8</td>
<td>16.9 ± 4.6</td>
<td>0.24</td>
</tr>
<tr>
<td>Overall</td>
<td>76.6 ± 12.2</td>
<td>74.0 ± 11.9</td>
<td>0.03</td>
</tr>
</tbody>
</table>

PWB = Physical well-being.
SWB = Social well-being.
EWB = Emotional well-being.
FWB = Functional well-being.
Table 3
Adverse events.

<table>
<thead>
<tr>
<th>Events</th>
<th>Acupuncture N = 70</th>
<th>Ondansetron N = 70</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>5 (7.1%)</td>
<td>6 (8.6%)</td>
<td>1.00</td>
</tr>
<tr>
<td>Constipation</td>
<td>19 (27.1%)</td>
<td>31 (44.3%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>2 (2.8%)</td>
<td>7 (10%)</td>
<td>0.18</td>
</tr>
<tr>
<td>Dyspepsia</td>
<td>8 (11.4%)</td>
<td>7 (10%)</td>
<td>1.00</td>
</tr>
<tr>
<td>Sedation</td>
<td>6 (8.6%)</td>
<td>4 (5.7%)</td>
<td>0.62</td>
</tr>
<tr>
<td>Insomnia</td>
<td>2 (2.8%)</td>
<td>11 (15.7%)</td>
<td>0.01</td>
</tr>
</tbody>
</table>
VASOMOTOR SYMPTOMS
Walker et al., 2011

- Acupuncture Versus Venlafaxine for the Management of Vasomotor Symptoms in Patients With Hormone Receptor-Positive Breast Cancer
- Two-armed, RCT
  - Acupuncture (N = 25)
  - Venlafaxine (N = 25)
- Measures
  - Hot Flash Diary
  - Menopause Specific QOL questionnaire
  - Short Form 12-Item Survey
  - Beck Depression Inventory
  - NCI Common Toxicity Criteria Scale
Walker et al., 2011

- “Both groups exhibited significant decreases in hot flashes, depressive symptoms, and other quality-of-life symptoms, including significant improvements in mental health from pre- to post-treatment.”

- “These changes were similar in both groups, indicating that acupuncture was as effective as venlafaxine.”
Walker et al., 2011

Hot Flash Frequency Mean

\[ P < 0.05 \]
Walker et al., 2011

- “The venlafaxine group experienced 18 incidences of adverse effects (e.g., nausea, dry mouth, dizziness, anxiety), whereas the acupuncture group experienced no negative adverse effects.”
HOW DOES ACUPUNCTURE WORK?
Traditional Points & Channels
Connective Tissue
Neuromuscular Junctions
Trigger Points & Referral Patterns
THANK YOU!
Zeyiad R. Elias, DAOM, RAc
zelias1@hfhs.org