Utilisation of acupuncture at an academic medical centre

Ann Vincent,1 Kelly M Kruk,2 Stephen S Cha,3 Brent A Bauer,1 David P Martin4

ABSTRACT

Objective To provide information about the clinical use of acupuncture at an academic medical centre in the USA.

Methods A retrospective review of 904 patients (receiving 6070 treatments) who were referred for acupuncture treatment at the Mayo Clinic (Rochester, Minnesota, USA) between 1 January 2004 and 31 December 2008. Data gathered included age, sex, primary diagnosis, number of treatments per diagnosis and health insurance carrier.

Results The mean (SD) age of the patients was 53.4 (16.2) years; 73.8% were female and 26.2% were male. The three most common diagnostic categories for which acupuncture was used were spinal pain (33.4%), pain (other) (25.1%) and joint pain (12.3%). About 42% of visits were not covered by health insurance carriers and hence patients had to pay themselves. For the remaining 58% of visits, health insurance carriers picked up all or part of the cost of the acupuncture treatments.

Conclusion The results indicate that pain is the most common reason for use of acupuncture in an academic medical centre and that women use acupuncture more than men. This is one of the few reports of clinical use of acupuncture at academic medical centres in the USA.

INTRODUCTION

Acupuncture is a component of traditional Chinese medicine that involves inserting small, thin needles into specific points on the body to achieve therapeutic effects. In December 2008, the National Center for Health Statistics and the National Center for Complementary and Alternative Medicine released survey information on use of complementary and alternative medicine by adult Americans. The survey estimated that 3141 000 adult Americans used acupuncture in 2007. Despite the popular use of acupuncture, few published papers provide information about the clinical use of acupuncture at academic medical centres in the USA. In 2009, Loh et al. reported their experience of incorporating acupuncture at a university-based family medical centre. The authors reported that back pain, headache and neck pain were the most common reasons for using acupuncture. Likewise, the purpose of this short report is to describe the most common reasons for which acupuncture was used in a clinical setting at our academic medical centre.

MATERIALS AND METHODS

The study involved a retrospective review of 6070 electronic medical records from 904 consecutive patients referred for acupuncture treatments at the Mayo Clinic (Rochester, Minnesota, USA) between 1 January 2004 and 31 December 2008. Data gathered included age, sex, primary diagnosis, number of treatments per diagnosis and insurance carrier. The diagnoses were further categorised into 15 categories for meaningful analysis and interpretation of the data (table 1). The review was approved by the Mayo Clinic Institutional Review Board.

The Mayo Clinic is the largest integrated, not-for-profit group practice in the world, where doctors from every medical and surgical specialty work together to care for patients. Referrals for acupuncture can come from any medical or surgical specialty.

Acupuncture is available through the institution’s complementary and integrative medicine programme and the Pain Clinic. A referral from one of the institution’s providers (doctor, doctor’s assistant or certified nurse practitioner) is necessary for a patient to have an acupuncture consultation. Therefore patients cannot self-refer for acupuncture. A referral for acupuncture initiates an acupuncture consultation with a doctor trained in acupuncture. At the consultation, the medical history relevant to the clinical indication for acupuncture, the science of acupuncture, the risks and benefits of acupuncture and the optimal number of acupuncture treatments for the clinical indication are discussed with the patient. Then depending on patient preference, a series of weekly, biweekly or bimonthly acupuncture treatments are scheduled. The acupuncture treatments are provided by doctors trained in medical acupuncture or by licensed acupuncturists trained in traditional Chinese medicine. The technique of acupuncture depends on the provider’s training. Information on specific acupuncture techniques in relationship to the diagnosis was not collected as it was beyond the scope of this study. At the time of this study, two licensed acupuncturists and three doctors provided acupuncture services at our centre.

The diagnoses were determined by the referring provider and verified by the consulting provider at the acupuncture consultation. Current procedural terminology codes were used to bill the acupuncture services. For the purposes of this study, the diagnosis most relevant to acupuncture was selected for patients with multiple diagnoses.

Statistical analysis

Continuous variables were summarised as mean (SD). Categorical variables were summarised as percentage and frequency. All analyses were performed with SAS version 9.1.2 software (SAS Institute, Cary, North Carolina, USA).
RESULTS
The mean (SD) age of our patient population was 53.4 (16.2) years; 73.8% (667 patients) were female and 26.2% (237 patients) were male. The three most common diagnostic categories for which acupuncture was used were spinal pain (33.4%; 302 patients), pain (other) (25.1%; 227 patients) and joint pain (12.3%; 111 patients) (table 1). In our patient population, about 42% of claims submitted were not covered by health insurance carriers and hence patients themselves had to pay. In the remaining 58% of claims submitted, health insurance carriers picked up all or part of the cost of the acupuncture treatments. The three most common insurance carriers to which claims were submitted were the institution’s employee health insurance plan (40.2%), Medicare (24.0%) and other (17.7%).

DISCUSSION
This is one of the few reports of clinical use of acupuncture at an academic medical centre in the USA. Key demographic data in our study are consistent with those of previous studies, in which the primary users of complementary medicine were typically middle-aged women presenting with pain. As shown by our report and previous studies, acupuncture is predominantly used to manage pain. Previous research has demonstrated that acupuncture is safe, with few or no side effects. Therefore, it may be a modality that doctors want to consider for their patients with chronic pain.

As stated previously, examination of types and technique of acupuncture in relation to diagnostic categories and clinical outcomes was beyond the scope of this retrospective chart review. So we are unable to comment on this. We hope that future research will help to define the types of acupuncture that work best in different diagnostic categories and their outcomes.

Table 1  Diagnostic categories and gender distribution of acupuncture treatments

<table>
<thead>
<tr>
<th>Diagnostic category</th>
<th>Number of patients</th>
<th>Number of treatments</th>
<th>Percentage of treatments by gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal pain</td>
<td>302</td>
<td>1808</td>
<td>Male 24.4 Female 75.6</td>
</tr>
<tr>
<td>Pain (other)</td>
<td>227</td>
<td>1795</td>
<td>Male 23.6 Female 76.4</td>
</tr>
<tr>
<td>Joint pain</td>
<td>111</td>
<td>678</td>
<td>Male 14.6 Female 85.4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>69</td>
<td>219</td>
<td>Male 30.6 Female 69.4</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>56</td>
<td>559</td>
<td>Male 3.4 Female 96.6</td>
</tr>
<tr>
<td>Headache/migraine</td>
<td>51</td>
<td>381</td>
<td>Male 18.4 Female 81.6</td>
</tr>
<tr>
<td>Myofascial symptoms</td>
<td>39</td>
<td>360</td>
<td>Male 23.1 Female 76.9</td>
</tr>
<tr>
<td>Gastrointestinal tract disorders</td>
<td>16</td>
<td>119</td>
<td>Male 16.8 Female 83.2</td>
</tr>
<tr>
<td>Chronic fatigue</td>
<td>10</td>
<td>66</td>
<td>Male 6.1 Female 93.9</td>
</tr>
<tr>
<td>Psychological disorders</td>
<td>8</td>
<td>33</td>
<td>Male 33.3 Female 66.7</td>
</tr>
<tr>
<td>Hot flashes</td>
<td>6</td>
<td>40</td>
<td>Male 0 Female 100</td>
</tr>
<tr>
<td>Infertility</td>
<td>4</td>
<td>15</td>
<td>Male 0 Female 100</td>
</tr>
<tr>
<td>Cancer (various)</td>
<td>3</td>
<td>3</td>
<td>Male 33.3 Female 66.7</td>
</tr>
<tr>
<td>Sleep disorders</td>
<td>1</td>
<td>3</td>
<td>Male 0 Female 100</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>1</td>
<td>1</td>
<td>Male 100 Female 0</td>
</tr>
<tr>
<td>Total</td>
<td>904</td>
<td>6070</td>
<td>Male 20.4 Female 79.6</td>
</tr>
</tbody>
</table>

Summary points
▶ Acupuncture is often provided in academic medical centres but the patients are rarely described.
▶ In one centre in the USA, 74% of patients were women.
▶ 33% of patients had spinal pain, 25% other pain and 12% joint pain.
▶ 42% of the patients paid for all their treatment.

As similar data become available from other medical centres, the medical community will gain better insight into the clinical utility of acupuncture.

Competing interests  None.

Ethics approval  This study was conducted with the approval of the Mayo Clinic Institutional Review Board.

Provenance and peer review  Not commissioned; externally peer reviewed.

REFERENCES
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