The Most Commonly Treated Acupuncture Indications in the United States: A Cross-Sectional Study

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Abstract: Acupuncture has been a popular alternative medicine in the United States for several decades. Its therapeutic effects on pain have been validated by both basic and clinical researches, and it is currently emerging as a unique non-pharmaceutical choice for pain against opioid crisis. However, the full spectrum of acupuncture indications remains unexplored. In this study, we conducted a cross-sectional survey among 419 acupuncturists nation-wide to investigate the top 10 and top 99 acupuncture indications in private clinics in the United States. We found the top 10 indications to be: lower back pain, depression, anxiety, headache, arthritis, allergies, general pain, female infertility, insomnia, neck pain and frozen shoulder. Among the top 99 indications, pain represents the largest category; and mental health management, especially for mood disorders, is in greatest demand. The following popular groups are: immune system dysfunctions, gastrointestinal diseases, gynecology and neurology. In addition, specialty index, commonality index, and the potential to become medical specialties were estimated for each indication. Demographic analysis suggests that China trained acupuncturists tend to have broader indication spectrums, but the top conditions treated are primarily decided by local needs. Also, gender, resident states, age and

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clinical experience all affect indication distributions. Our data for the first time outlines the profile of acupuncture treatable conditions in the US and is valuable for strategic planning in acupuncture training, healthcare administration and public education.

Introduction

Since James Reston's 1971 New York Times report about his acupuncture experience in Beijing (Li, 2014; Prensky, 1995 Dec 14; Reston, 1971 Jul 26), this ancient medical modality has become popular in the United States in the past 46 years (NCCAOM, 2003; Samadi, 2012 May 15). During this time period, a number of acupuncture trials have been launched following principles of evidence based medicine (EBM). Despite methodological challenges, some conclusions have been reached about its effectiveness, especially on pain management (Berman *et al.*, 2004; Lao *et al.*, 1999; Manheimer *et al.*, 2007; Ning and Lao, 2015; Vickers *et al.*, 2012, 2018; Vickers and Linde, 2014). Further, basic researches on the neurobiology of pain has helped to explain how acupuncture anesthesia works, uncovering one important aspect of the physiological mechanisms involved in acupuncture (Han, 2011, 2004; Zhang *et al.*, 2012).

In 1997, the NIH (National Institutes of Health) consensus conference accredited acupuncture to be effective in treating post-operative pain, dental pain, nausea and vomiting (chemo or pregnancy induced), and promising at alleviating menstrual cramps, tennis elbow and fibromyalgia based on available clinical evidences (Acupuncture, 1998; Morey, 1998; Wootton, 1997). In 2016, the NIH-NCCIH (National Center for Complementary and Integrative Health) updated the clinical application of acupuncture according to the research data, affirming its effectiveness in pain management, including back and neck pain, osteoarthritis and knee pain, and headaches. Acupuncture may also help with the side effects of cancer treatments, but the results are uncertain for depression (NIH-NCCIH, 2016).

The leaps in acupuncture research, though small, have profound impact on public health. In 2016, the US Surgeon General's report for the first time in history recognized the epidemic of drug addiction as a serious public health concern (Murthy, 2016). In 2017, the testimonies from the NIH, the CDC (Centers for Disease Control and Prevention) and the FDA (Food and Drug Administration) together called for public attention to this "opioid crisis," and promoted acupuncture as an alternative treatment to prevent patients from being addicted to drugs (Collins, 2017; NIH, 2017). The 2017 ACP (American College of Physicians) guideline also placed acupuncture as a first line therapy for both acute and chronic low back pain, while opioid pain medications were considered to be the last resort (ACP, 2017; Qaseem *et al.*, 2017).

Pain only represents one category of indications that acupuncture specializes in treating. In 1979, the WHO (World Health Organization) collected experts' opinions and

recommended acupuncture for 43 diseases (Bannerman, 1979; Li and Zhang, 1992). In 2002, the WHO Consultation on Acupuncture summarized 255 clinical reports and concluded acupuncture to be effective for 28 indications and promising for 63 other indications (Chmielnicki, 2014). The AAMA (American Academy of Medical Acupuncture) also announced an open list of recommended indications from the "medical acupuncture" perspective (AAMA). In China, clinical researchers of Traditional Chinese Medicine (TCM) analyzed historical and modern literatures, and proposed that acupuncture could be effective for more than four hundred medical conditions (Du *et al.*, 2007, 2009). For these medical conditions other than pain, rigorous medical research is needed to validate the empirical observations and understand the biological mechanisms. Therefore, what medical conditions acupuncture can effectively treat still remain to be investigated.

As an alternative therapy in the US, acupuncture is being used in 46 states and Washington DC with legitimacy (Fan *et al.*, 2017). In a few decades, 56 schools were founded, and 38 thousand acupuncturists passed board exams (Fan *et al.*, 2017). The growing capacity of acupuncture medicine provides an opportunity to answer the above question on a market-based, country-specific context.

In the United States, the practice of acupuncture is predominantly operated in individual clinics, while some hospitals maintain outpatient clinics or provide inpatient services (Wang, 2013). Often times, acupuncture clinics are privately owned and run by one or a few acupuncturists. Most acupuncturists treat a variety of medical conditions, while some of them specialize. The conditions commonly treated in acupuncture clinics are determined by patient needs, acupuncture efficacy, insurance coverage, government regulation, alternative or competing treatment options and demographic characteristics of the acupuncturist.

Therefore, we designed a questionnaire-based, cross-sectional survey among acupuncturists nationwide, to investigate the most commonly treated acupuncture indications in private clinics in the United States and analyzed the acupuncturist characteristics that determine the indication distributions.

Materials and Methods

Questionnaire Design

A questionnaire of nine questions in both English and Chinese was designed for acupuncturists who run or practice in private clinics in the United States (Supplementary Table S6). Three questions cover demographic information, including: age, gender, and ethnicity. Three questions are about acupuncture training and practice, including: country obtaining acupuncture education, years of acupuncture practice, and resident state where acupuncturists practice. Two questions are investigating the most frequently treated indications in acupuncture clinics, aiming for the top 99 indications and the top 10 indications, respectively. One last question is optional: email contact for receiving ICD-10 table as a gift reward.

Generate a Pool of Indications for Selection

A list of 189 candidate acupuncture indications was drafted by three acupuncturists, Guanhu Yang, Shaobai Wang (Tang Acupuncture) and Yongming Li, according to published studies (Du *et al.*, 2007, 2009), WHO documents (Chmielnicki, 2014), TCM textbooks (Cheng, 2009), as well as their own clinical experiences. The three all have comprehensive training in both Chinese and Western medicine and have been practicing acupuncture for 28 years or more in China, Japan or the US. This initial indication list was circulated among acupuncture experts for further revision, ensuring that the commonly seen acupuncture indications were fully covered.

Survey Distribution and Collection

A Sogo Survey website for this study was launched online on September 2015. Licensed acupuncturists with more than three years of clinical practices were invited via mobile app Wechat (Tencent Inc.), local acupuncture societies and TCM school websites. This survey is anonymous, and acupuncturists participate on a volunteer basis. Informed consent was obtained, and participants who completed the first eight questions and submitted the results online by May 2016 were automatically enrolled in this study.

Data Extraction and Analysis

The original data were downloaded from SogoSurvey website. Excel was used to perform the general statistical analysis and generate charts and tables.

Commonality Index and Specialty Index

To evaluate the potential of developing a medical specialty for each acupuncture indication, two indices were generated. "Commonality index" (CI) was used to describe how broad an indication distributes among the surveyed clinicians, and "Specialty Index" (SI) was used to assess the chance of being a top indication in any acupuncture practice. The calculations were as below:

	Top 99	Top 10
Total Vote (all participants, all indications)	28349	4223
Total Indication	189	189
Ave. Vote/Indication	150	22
Total Participants	419	419
Ave. Vote/Participant	68	10

For each indication,
Commonality Index (CI)* = vote # in top 99/150

Specialty Index (SI)** = vote # in top 10/22

Acupuncture Specialty Potential (ASP)*** = SI/CI (cut off: SI > 1, CI > 1)

*: Any indication with a commonality index (CI) above 1 is considered "common" in relative to those with CI below 1. The average vote per participant equals 68, only two thirds of 99, indicating that "top 99" as a cutoff is able to fully cover the commonly seen indications in acupuncture clinics. Denominator "150" indicates that if every participant picks 68 indications at random, each indication will have 150 votes on average.

**: Any indication with a specialty index (SI) above 1 is considered as an acupuncture indication in relative to those with SI below 1. Denominator "22" indicates that if every participant picks 10 indications at random, each indication will have 22 votes on average.

***: Any indication with ASP value above 1 is considered as a potential indication for developing an acupuncture medical specialty.

Normalization of Sub-Population for Between-Group Comparison

For the comparison among residential states, China educated Asian acupuncturists were selected. The total participant number per state was normalized to 60, and the vote number for each indication in that group was scaled in proportion to the total participant number. After normalization, the vote number of each indication will be comparable among different state groups. Normalization for other between-group comparisons (gender, education) in this study was carried out following the same principle.

Calculation of Bias Rate

After normalization, if indication A has votes number X, Y, Z in NY, CA, FL states; Bias of indication A in NY = (X - (X+Y+Z)/3) − 1.

Bias rate will be a number between 0% and 100%. A bias rate of 0 means that the vote for indication A in NY state is the same as the mean, therefore on average indication A is neither favored nor excluded by NY acupuncturists. An increasing rate suggests more bias exists.

Bias rate for each indication in other between-group comparisons (gender, education) in this study was carried out following the same principle.

Results

In the time window between September 23rd, 2015 and May 18th, 2016, 430 acupuncturists returned the survey. Among them, 9 acupuncturists practice in countries or areas other than the United States, and 2 acupuncturists did not complete the first eight questions. In total, 11 surveys were filtered out, and 419 valid responses were included in this analysis.

Demographic Information: Demographic Characteristics and Distribution

The demographic characteristic and distribution was summarized in Figure 1 and Supplementary Table S1. Among all 419 acupuncturists, more than half of them (66%) were
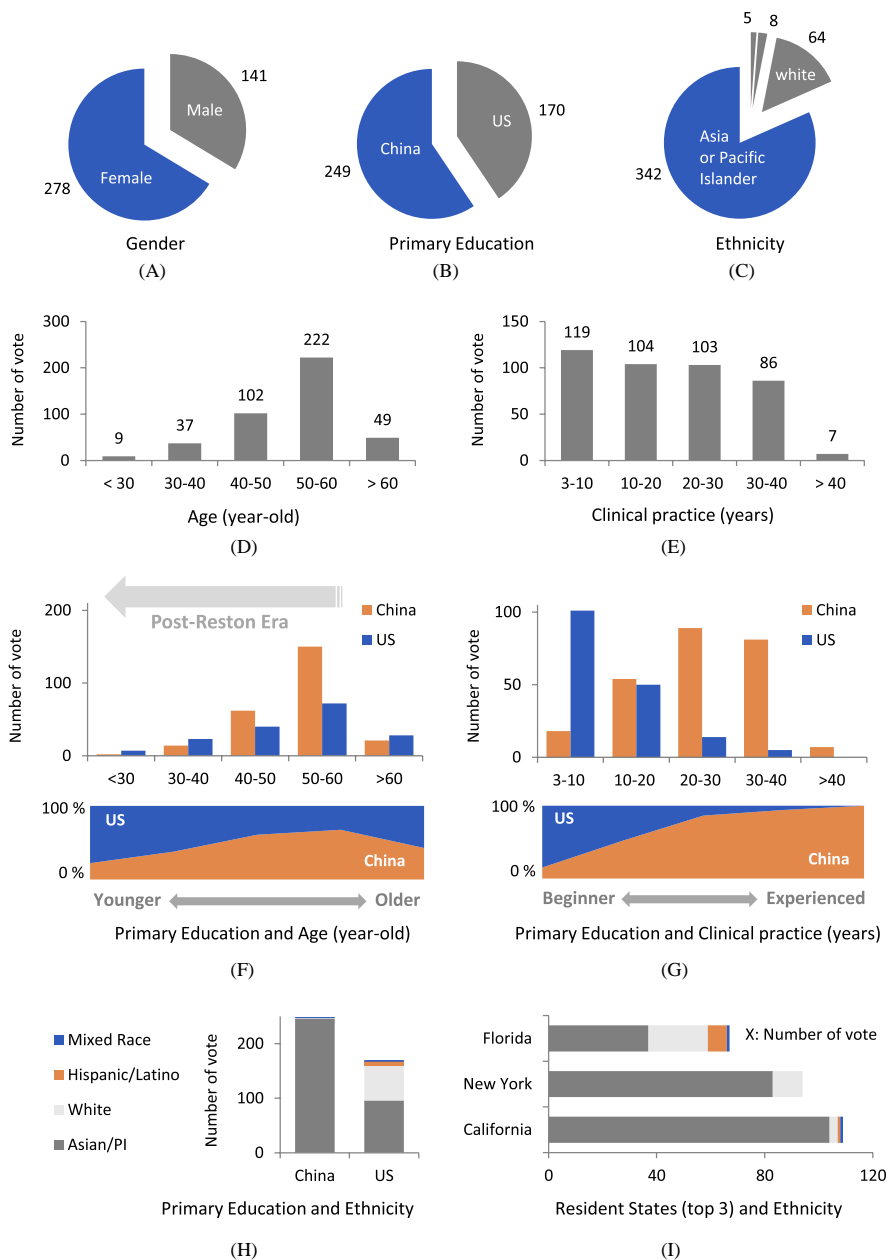
Figure 1. The demographic characteristic and distribution. (A–C) Pie charts were used to describe the percentage composition of each item for gender, primary education and ethnicity in our surveyed population. (D, E) Bar charts were used to describe the distribution of each age or year group among surveyed population. (F, G) The number of China or US educated acupuncturists was presented in orange or blue bar, for each age group or clinical experience group. The corresponding percentage of these two education backgrounds per group was also shown. (H) The ethnicity distribution among China or US educated acupuncturists. (I) The ethnicity distribution among acupuncturists in Florida, New York or California.

women (Fig. 1A). Considering the age, about half of the participants (222, 53%) were between 50 to 60 year-old, and one fourth (102, 24%) were between 40 to 50 year-old (Fig. 1D). The above 60-year-old group and 30–40-years-old group accounted for 12% (49) and 9% (37) respectively, and only 2% (9) of the participants were younger than 30 (Figure 1D). As to ethnicity, the majority (342, 82%) of the participants in the survey were Asian or Pacific Islander, and the rest included white (64, 15%), Hispanic or Latino (8, 2%), and mixed race (5, 1%) (Fig. 1C).

Of the 419 respondents, 249 (59%) received primary acupuncture education in China, and 170 (41%) were primarily trained in the United States (Fig. 1B). Despite a missing of acupuncturists trained in other countries, such as Korea and Japan, US- and China-trained acupuncturists are known to represent the vast majority of acupuncture practitioners in the United States (Fabrey *et al.*, 2003).

A further analysis on years of clinical practices was summarized in Fig. 1E. The largest group (119, 28%) was the least experienced, with 3–10 years of practice, followed by three groups of 104 (25%), 103 (25%) and 86 (21%) acupuncturists, each with 10–20, 20–30 and 30–40 years of practice, respectively. Only 7 (2%) acupuncturists had over 40 years of clinical experience. In general, the distribution patterns reflect the growing history of acupuncture in America, while junior groups are slightly expanding in comparison to their immediately senior groups. Forty-year seems like the threshold of maximum practicing years, probably due to retirement, a late start of second career, or the relatively short history of acupuncture in the US. Overall, our data suggest a stable and sustainable acupuncturist community with varying levels of clinical experience, indicating this profession is gradually integrating into the healthcare system in the United States.

The Relationship among Different Demographic Factors

The relationships among different demographic factors were summarized in Supplementary Table S1 and Fig. 1. Between-gender differences were little among groups of different age, ethnicity, primary education or years of practices (Supplementary Table S1). However, an interesting relationship between primary education and other parameters were shown (Fig. 1). Ethnicity wise, 99% of the participants primarily trained in China were Asian/ Pacific Islander, and this percentage dropped to 56% among graduates from US acupuncture schools (Fig. 1H). Age was another factor to consider. Mid-age acupuncturists were more likely to be trained in China, while younger practitioners more often attended TCM schools in the United States (Fig. 1F). This trend was even more distinct when it came to years of practice (Fig. 1G). The more experienced acupuncturists with 20–40 years of clinical practice were predominantly educated in China (69%), while acupuncturists early in their career (3–10 years of experience) were mostly educated in the US (59%) (Fig. 1G). Collectively, the relationship between primary education and other demographic factors marks an older generation of acupuncturists from the East, as well as an increasing body of locally trained junior acupuncturists in the West.

In terms of the relationship between ethnicity and age or years of experience (Supplementary Table S1), a quartile (88, 26%) and a half (191, 56%) of Asian/Pacific Islanders

were between 40–50 and 50–60-years-old, respectively, with longer practice years; in contrast to White, half (36, 56%) and one third (19, 30%) of whom had 3–10 and 10–20 years of practice, respectively, representing a younger generation of locally produced acupuncturists. Consistent with other observations, these statistics illustrate a historical immigration wave of Chinese TCM doctors to the US around 1980s to 1990s and reca-pitulate the growth of acupuncture education and industry in the United States in the past 40 years (Fan *et al.*, 2017; Li, 2011, 2014).

Considering resident status, male acupuncturists (29%) favored New York more than female acupuncturists (19%), while less gender difference was observed in California (28% female, 22% male) (Supplementary Table S1). A total of half Asian/Pacific Islander acu-puncturists practiced in California (30%) and New York (24%), and about one third of White acupuncturists resided in Florida (33%) (Fig. 1I), consistent with ethnicity com-position of local populations. Probably owing to cultural diversity and cosmopolitan na-ture, California and New York also maintain the population of the oldest and the most experienced acupuncturists (Supplementary Table S1), many of whom pioneered in de-veloping and renovating the acupuncture industry in the United State (Li, 2011).

Common Indications Treatable by Acupuncture: Top 10 Indications

The top 10 frequently treated indications among US acupuncture clinics in our study are ranked in Figure 2. Among them, lower back pain (209, 50%), depression (194, 46%) and anxiety (190, 45%) were the most common, each checked by almost half of the acu-puncturists. The next group included headache (171, 41%), arthritis (170, 41%), allergies (167, 40%) and general pain (167, 40%), each receiving around 40% votes. The third tier consisted of female infertility (153, 37%), insomnia (151, 36%), neck pain (150, 36%) and frozen shoulder (144, 34%).

Among these ten most typical acupuncture indications in the US clinics, pain was the top concern, representing half of the clinical complains acupuncturists encountered. The next categories were mood related disorders, including depression, anxiety and insomnia. Allergies accounted for the third major group of common indications; and female infertility was another popular reason for patients to visit an acupuncture clinic.

Top 99 Indications and Six Major Categories

To extend our understanding to a broader spectrum of acupuncture indications in the United States, the top 99 frequently treated conditions were surveyed and summarized in Fig. 3. Interestingly and slightly different from the top-10 list, depression (384, 92%) and insomnia (378, 90%) ranked as the top two commonly treated indications among the 419 surveys, suggesting large demands for and acupuncture's potential in alleviating mental stress (Fig. 3). Several types of pain and neuromuscular disorders, including low back pain, arthritis, hip pain, headache, neck pain, frozen shoulder, tennis elbow, leg pain and heel pain, were checked by more than or close to 80% of the acupuncturists, again, rendering
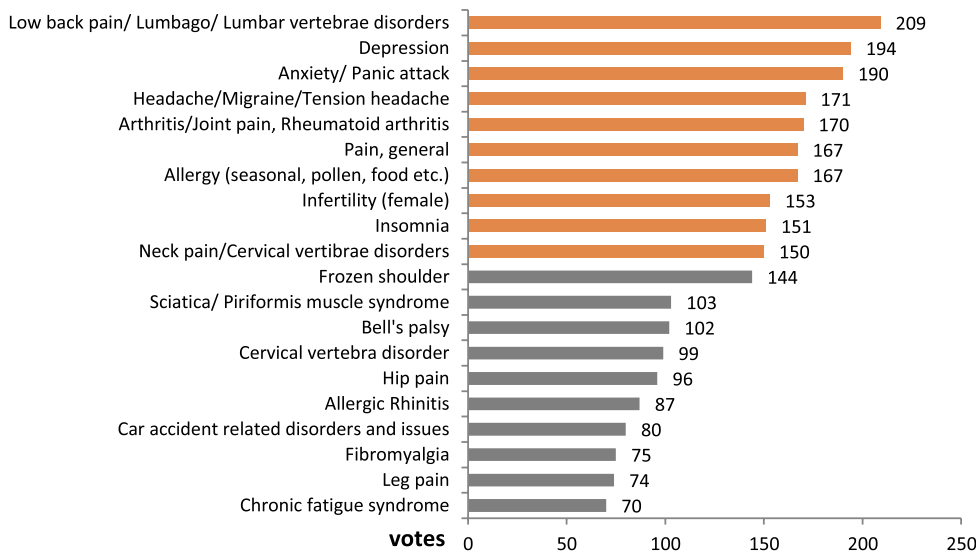
Figure 2. The top 10 indications. Bar chart was used to describe the top 20 indications based on vote number. The top 10 indications were colored in orange.

pain as the largest category of acupuncture indications (Fig. 3). Allergies (335, 80%) and female infertility (331, 79%) fell into the top-20 list, together with other typical acupuncture indications such as Bell's palsy (322, 77%), carpal tunnel syndrome (312, 74%) and chronic fatigue syndrome (304, 73%) (Fig. 3).

The 99 indications were further grouped into 13 major categories according to Western medicine (Supplementary Table S2). Figure 4A ranked the categories based on total number of indications in that category. Consistent with current literatures (Kligler *et al.*, 2015; MacPherson *et al.*, 2016; Manheimer *et al.*, 2005; Vickers and Linde, 2014), pain management was the most comprehensive category, targeting various types of pain (25 in total) on different parts of our body. Next categories were gastrointestinal disorders, neurology, gynecology and internal medicine; each contained a 10–12 indications treatable by acupuncture. Mental health and immune disorders took the 6th and the 7th. Figure 4B ranked these categories using average vote number per indication in that category. Impressively, mental health rise to the top, indicating a large demand for managing psychological or psychiatric problems in modern society, and acupuncture may be helpful in alleviating many of them, including: depression, insomnia, anxiety, chronic fatigue syndrome, drug addiction, smoking cessation and nervousness (Fig. 4B, Supplementary Table S2). Psychiatry in Western medicine is a highly specialized field covering a variety of serious mental illness, while acupuncture seems to help with mood-related disorders in particular. Another major category in our analysis was immune disorders, especially chronic inflammation and autoimmune reactions, including: allergies, asthma, fibromyalgia, allergic rhinitis and multiple sclerosis (Fig. 4B, Supplementary Table S2). In addition,
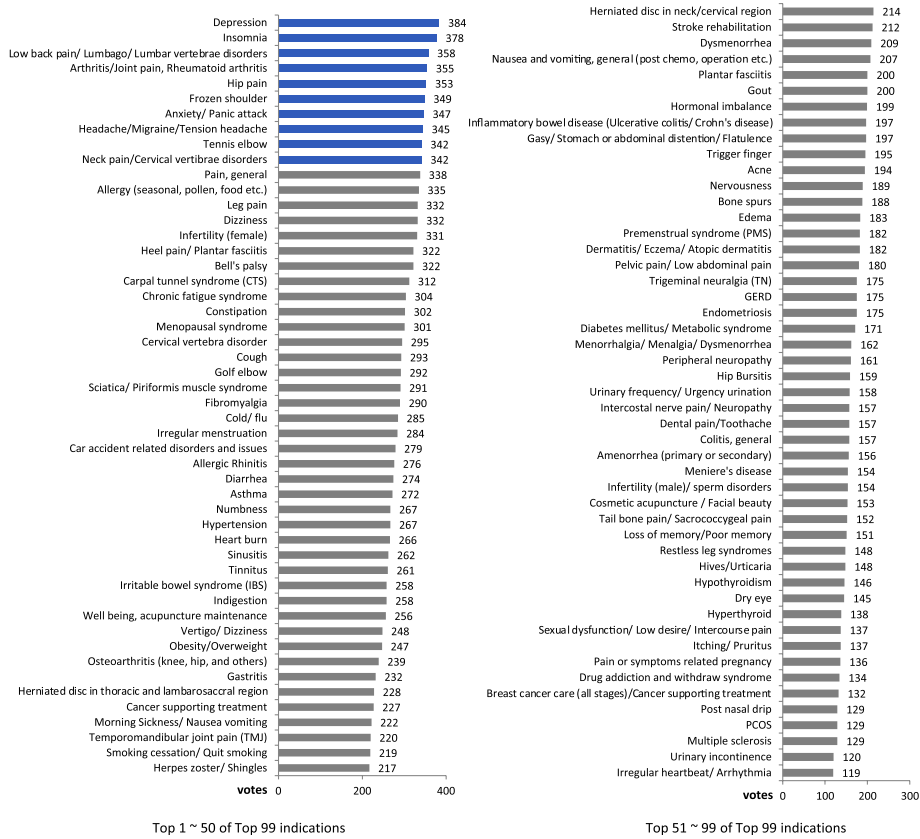
Figure 3. The top 99 indications. Bar chart was used to describe the top 99 indications based on vote number. The first 10 indications were colored in blue.
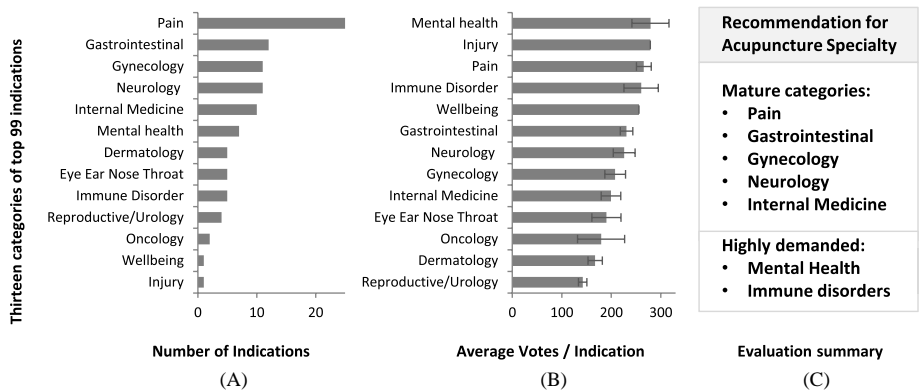
Figure 4. The categorization of top 99 acupuncture indications. The top 99 acupuncture indications were categorized into 13 categories (Table S3). The 13 categories were sorted by indication counts (A) or average vote per indication (B). The evaluation of prioritized categories was summarized in (C).

arthritis received high vote (355 votes, 4th of top 99) and was categorized to pain, but its rheumatoid subtype often derives from immune dysfunction (Supplementary Table S2).

In summary, acupuncture has a broad application in pain management; and is sought after for treatment for mental health and immune disorders. It may also have a sound foundation in treating gastrointestinal, gynecology, neurology and internal medicine conditions (Fig. 4C). These seven categories should be prioritized in developing medical specialties for acupuncture.

CI (Commonality Index), SI (Specialty Index) and the Potential to Develop Acupuncture Specialties (ASP)

Commonality index (CI) and specialty index (SI) were generated from the top-99 list and top-10 list, respectively, to quantitatively evaluate each indication for 1) how broad it distributes in the market, and 2) how much specialty may it require (Fig. 5). The SI/CI ratio was used to assess the potential of a particular indication treatable by acupuncture to be developed into a acupuncture medical specialty (ASP, acupuncture specialty potential)
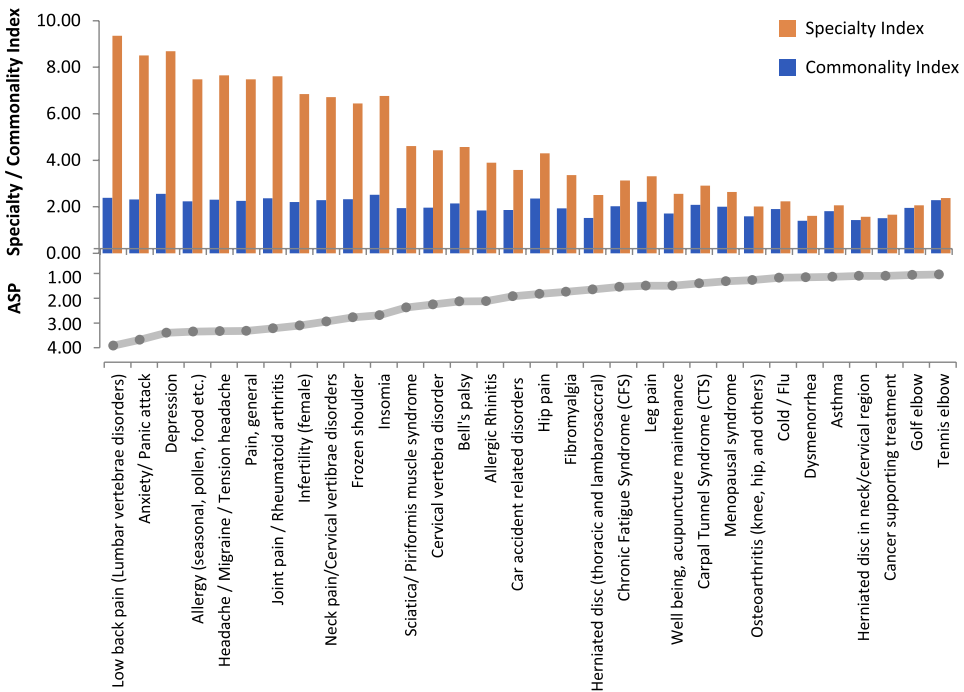
ASP (Acupuncture Specialty Potential) = Specialty Index / Commonality Index

Figure 5. Commonality index (CI), specialty index (SI) and acupuncture specialty potential (ASP). Bar charts were used to describe the commonality index (CI, in blue) and specialty index (SI, in orange), and the acupuncture specialty potential (ASP) was calculated and shown in gray curve below. Indications were sorted by ASP value.

(Fig. 5). Consistent with prioritized categories, low back pain and other types of pain; anxiety, depression and insomnia; allergies; as well as female infertility; hold the highest potential to become leading indications in developing acupuncture sub-specialty (Fig. 5).

Further, the ranking differences between the top-10 and the top-99 lists indicate intrinsic feature of specialty or commonality for each indication. One example is female infertility, which ranked 15th on the top-99 list and rose to 8th on the top-10 list (Figs. 2 and 3), suggesting that female infertility is a specialized field in acupuncturists' mind. On the other hand, insomnia topped at 2nd on the top-99 list but only ranked 9th on the top-10 list (Figs. 2 and 3), suggesting that insomnia is a common indication that shows up in most clinics, however it may require less specificity on treatment paradigm. Therefore, the top-99 list helps to predict the commonality of an indication, while the top-10 list suggests more about its specialty demands.

Demographic Factors Affecting Acupuncture Indication Profiles: Gender

In general, the between-gender difference was little among acupuncturists of different primary educations, ethnicity, age groups and years of practice, except that more males resided in Florida and more females lived in California (Supplementary Table S1). A direct comparison of gender-biased indications after normalization revealed more female-biased indications than male-biased ones (Tables 1 and 2). Female acupuncturists had more patients with gynecological, mood and functional disorders, while male acupuncturists saw more patients for man's health issues, organ disease and traumatology issues (Table 1). Moreover, gynecological disorders were common among female-biased indications; while male-specific conditions were mostly categorized to be rare (Tables 1 and 2).

Education Background

Primary education helps shape the spectrum of an acupuncturist's practice. In our study, China-trained acupuncturists selected a much longer list of indications with a broad variety, while acupuncturists who have graduated from TCM schools in the United States preferentially treat various conditions of pain and emphasize well-being maintenance (Table 3).

To minimize the effects superimposed by skewed ethnicity and geographic locations, we further examine the China- or US-education biased indications in the sub-population of California Asian (Supplementary Table S3). Interestingly, the selections of top 99 indications were pretty similar between the China and US educated California Asians (except "car accident", Supplementary Figure S1), suggesting a similar spectrum of clinical practice regardless of their education origin. In particular, the vote numbers for the most frequently treated indications (i.e., top 30) were fairly comparable (Supplementary Figure S2), indicating that the most common indications were primarily determined by local medical demands for acupuncture rather than practitioners' education background. However, the less common indications (i.e.: top 91–189) usually received more votes from China-educated participants than US-trained acupuncturist (Supplementary Fig. S1). On average, Chinese graduates picked 64.6 indications, 15% more than US graduates (56.4).

Table 1. Gender Biased Common Indications.

Female (Bias > 5%, Ave. Vote > 71)	Bias (%)	Female	Male	Female	Male	Bias (%)	Male (Bias > 5%, Ave. Vote > 71)
Endometriosis	22	95.0	61.0	64.0	79.4	11	Dry Eye
Hip Bursitis	16	83.5	61.0	70.5	85.1	9	Urinary Frequency/Urgency Urination
Colitis, General	13	81.3	62.4	82.7	96.5	8	Edema
Morning Sickness/Nausea Vomiting	12	114.4	89.4	112.2	129.1	7	Obesity/Overweight
Hormonal Imbalance	12	102.2	80.9	96.4	110.6	7	Stroke Rehabilitation
Fibromyalgia	11	148.2	119.1	121.6	139.0	7	Hypertension
Cold/Flu	10	145.3	117.7	89.2	100.7	6	Trigger Finger
Menopausal Syndrome	9	152.5	126.2	71.9	80.9	6	Intercostal Nerve Pain/Neuropathy
Premenstrual Syndrome (PMS)	9	92.1	76.6	74.1	82.3	5	Peripheral Neuropathy
Carpal Tunnel Syndrome (CTS)	8	156.8	133.3	80.6	89.4	5	Trigeminal Neuralgia (TN)
Irritable Bowel Syndrome (IBS)	7	128.8	112.1	70.5	78.0	5	Cosmetic Acupuncture/Facial Beauty
Nervousness	7	94.2	82.3	95.7	105.0	5	Nausea and Vomiting
Chronic Fatigue Syndrome	6	151.1	133.3				
Inflammatory Bowel Disease	6	97.8	86.5				
Dysmenorrhea	6	103.6	92.2				
Arthritis/Joint Pain, Rheumatoid Arthritis	5	175.5	157.4				
Dermatitis/Eczema/Atopic Dermatitis	5	89.9	80.9				
Dizziness	5	164.0	147.5				
Infertility (Female)	5	163.3	147.5				
Menorrhalgia/Menalgia/Dysmenorrhea	5	79.9	72.3				

Notes: Participants after normalization: China 200, US 200.

Ave. votes/indications after normalization: 71.5.

Cut-off: Ave. vote > 71.5, Bias > 5%.

Table 2. Highly Gender Biased Rare Indications.

Highly Female-Biased, Rare Indications	Bias (%)	Female	Male	Female	Male	Bias (%)	Highly Male-Biased, Rare Indications
				18.7	38.3	34	Premature Ejaculation
				28.1	48.2	26	Concussion
				54.0	87.9	24	Sexual Dysfunc./Low Desire/Intercourse Pain
				45.3	73.8	24	Erectile Disorder (ED)
Miscarriage Prevention/Tocolysis	24	55.4	34.0	35.3	55.3	22	Benign Prostatic Hyperplasia (BPH)
Labor Induction/Post Term Pregnancy	22	61.9	39.7	31.7	49.6	22	Prostatitis, Acute and Chronic
Breeched Baby	21	56.8	36.9	36.7	56.7	21	Head Injury
Uterus Fibroids	17	57.6	41.1	48.2	69.5	18	Deafness, Hearing Loss
Amenorrhea (Primary or Secondary)	16	82.0	59.6	48.9	63.8	13	Hypotension
Ovarian Cyst/Benign Ovarian Tumor	14	59.7	45.4	42.4	55.3	13	Palpitation/Tachycardia/Bradycardia
PCOS	12	66.2	52.5	38.1	46.8	10	Genital Itch/Pain/Pruritus

Notes: Participants after normalization: China 200, US 200. Ave. votes/indication after normalization: 71.5. Cut-off: $30 <$ Ave. Vote < 71.5, Bias $> 10\%$, Biased Vote > 45.

Table 3. Education Biased Indications.

Primary TCM Education in China	Bias Rate (%)	CHINA	US	US	CHINA	Bias Rate (%)	Primary TCM Education in US
Acne	25	110.8	65.9	88.2	61.8	18	Tail Bone Pain/Sacrococcygeal Pain
Stroke Rehabilitation	14	112.4	84.7	112.9	83.5	15	Plantar Fasciitis
Meniere's Disease	13	81.1	62.4	141.2	109.2	13	Well-being, Acupuncture Maintenance
Bone Spurs	13	98.8	76.5	123.5	98.8	11	Herniated Disc (Thoracic and Lambarosaccral)
Dermatitis/Eczema/Atopic Dermatitis	10	94.0	76.5	97.6	80.3	10	Edema
Cancer Supporting Treatment	9	116.5	96.5	92.9	77.1	9	GERD
Diarrhea	9	140.6	116.5	83.5	69.9	9	Urinary Frequency/Urgency Urination
Allergic Rhinitis	9	141.4	117.6	112.9	94.8	9	Herniated Disc in Neck/Cervical Region
Diabetes Mellitus/Metabolic Syndrome	9	87.6	72.9	77.6	65.9	8	Restless Leg Syndromes
Gasy/Abdominal Distention/Flatulence	8	100.4	84.7	176.5	151.0	8	Pain, General
Infertility (Female)	8	167.9	143.5	122.4	108.4	6	Osteoarthritis (knee, hip, and others)
Fibromyalgia	8	147.0	125.9	134.1	118.9	6	Sinusitis
Trigger Finger	8	98.8	84.7	82.4	73.1	6	Peripheral Neuropathy
Morning Sickness/Nausea Vomiting	8	112.4	96.5	96.5	85.9	6	Nervousness
Colitis, General	8	79.5	68.2	148.2	132.5	6	Sciatica/Piriformis Muscle Syndrome
Gastritis	7	117.3	101.2				
Asthma	7	137.3	118.8				
Endometriosis	7	88.4	76.5				
Amenorrhea (Primary or Secondary)	7	78.7	68.2				
Bell's Palsy	7	162.2	141.2				
Cervical Vertebra Disorder	7	148.6	129.4				
Car Accident Related Disorders and Issues	6	139.8	123.5				
Dizziness	5	165.5	148.2				
Golf Elbow	5	145.4	130.6				
Inflammatory Bowel Disease	5	98.0	88.2				

Notes: Participants after normalization: China 200, US 200. Ave. Vote/Indication after normalization: 71.4. Cut-off: Ave.Vote > 71.4, Bias > 5%.

Table 4. Resident State Biased Indications (Asian, China educated).

	% *	Votes
California		
Car Accident related Disorders and Issues	17	50.00
Trigger Finger	16	34.00
Gout	15	38.00
Cold/Flu	12	47.00
Herpes Zoster/Shingles	12	35.00
Golf Elbow	10	47.00
New York		
Smoking Cessation (quit smoking)	33	39.27
Stroke Rehabilitation	20	39.27
Obesity/Overweight	19	41.45
Nausea and Vomiting	16	33.82
Allergy (seasonal, pollen, food etc.)	14	55.64
Sinusitis	13	36.00
Gasy/Stomach or Abdominal Distention	11	36.00
Sciatica/Piriformis Muscle Syndrome	11	41.45
Irritable Bowel Syndrome (IBS)	11	38.18
Well-being, Acupuncture Maintenance	11	33.82
Florida		
Peripheral Neuropathy	55	32.73
Infertility (male)/Sperm Disorders	47	38.18
Endometriosis	40	34.55
Amenorrhea (primary or secondary)	39	32.73
Herniated Disc in Neck/Cervical Region	34	38.18
Premenstrual Syndrome (PMS)	32	34.55
Nervousness	27	36.36
Edema	26	30.91
Meniere's Disease	23	30.91
Gastritis **(25)	22	45.45
Dysmenorrhea	22	40.00
Fibromyalgia **(11)	22	50.91
Herpes Zoster/Shingles	22	38.18
Hormonal Imbalance	21	32.73
Indigestion **(24)	21	45.45
Anxiety/Panic Attack **(3)	19	58.18
Morning Sickness	18	40.00
Cancer Supporting Treatment	17	41.82
Inflammatory Bowel Disease	17	30.91
Dermatitis/Eczema/Atopic Dermatitis	17	34.55
Constipation **(21)	16	47.27
Allergic Rhinitis **(10)	15	50.91
Herniated Disc (thoracic/lambarosaccral)	13	36.36
Bell's Palsy **(5)	13	56.36
Infertility (female) ** (4)	13	56.36
Cold/Flu ** (20)	13	47.27
Nausea and Vomiting	12	32.73

Table 4. (*Continued*)

	% *	Votes
Acne	11	36.36
Tinnitus	11	40.00
Diarrhea **(23)	11	45.45

Notes: Each population was normalized to 60 participants. *Cut-off: normalized votes > 30; bias rate > 10.

These patterns among California Asian acupuncturists are consistent with the trend observed in total population (Table 3), making the difference in primary TCM education that China-educated acupuncturists have a wider disease spectrum than their US-educated peers.

Resident State

To determine if resident state of acupuncturists has influence on their practice, we analyzed the data from China-educated Asian acupuncturists, a sub-population with the same ethnicity and education background in California, New York and Florida for comparison (Supplementary Table S4). Gender, age and years of practice do not vary much among the three sub-populations (Supplementary Table S4). After normalization, the bias rate of each indication was calculated, and the biased spectrums of top 99 and top 40 indications were plotted in Supplementary Figure S3. Interestingly, California had a pattern distinct from Florida but shared more similarity with New York. State-biased indications listed in Table 4 validated this observation: a long list containing many indications among the elders described Florida, whereas California had the shortest list. A similar pattern was also observed among top 10 indication lists (Supplementary Table S5). In short, Florida features senile diseases or symptoms; New York leads in work and stress related symptoms, and California is popular with conditions due to living styles.

Age and Years of Practice

Age and number of years in practice may also affect a patient's decision. The survey data suggested that patients with conditions like herniated disc, constipation, numbness, chronic fatigue, lower back pain, hip pain and insomnia tend to see younger acupuncturists (data not shown). On the other hand, patients with complicated conditions may prefer practitioners with multiple years of clinical practice, such as dizziness, cancer support, acne and infertility (data not shown).

Discussion

Our survey was disseminated by a mobile app WeChat, a popular Chinese social media application, via web post and emails to members of local acupuncture societies, and alumni

of several acupuncture schools in the US. The final responders were mostly Chinese due to the WeChat channel as expected, which is a clear limitation. But the issue was addressed in data analysis via normalization or analysis within defined sub-populations. The skewed data, however, provided a good resource for comparison of acupuncturists with different education backgrounds.

Although the majority of registered acupuncturists in the current market have received TCM training in the United States of America (Wang, 2013). 41% and 59% of the participants in our survey are primarily educated in China and US, respectively. A direct comparison between these two populations led to an intriguing observation that acupuncturists trained in China tend to treat a broader variety of medical conditions, while the US educated acupuncturists have a more focused disease spectrum. This contrast probably reflects the rich repertoire of clinical skillsets that acupuncture medicine developed throughout history in the East, although it might also be attributed to longer years of clinical practice among these Chinese TCM immigrants. Additionally, acupuncturists with an Asian background or who were educated in China are predominantly middle-aged and experienced groups, while the White group or locally trained acupuncturists are younger and less experienced on average and represent the emerging generation of this profession in the US. In other words, the main resource of practicing acupuncturists is gradually transitioning from being dependent on internationally imported TCM trainees to becoming self-sufficient within American educated graduates.

In past decades, acupuncture succeeded in pain management, documented by bedside practices, clinical trials and neurobiology studies of pain (Han, 2004; Lao *et al.*, 1999; Li and Zhang, 1992; MacPherson *et al.*, 2016; Ning and Lao, 2015; Vickers *et al.*, 2012, 2014). Consistent with this, pain represented the largest category of common acupuncture indications in our top-99 indication analysis. As a complex syndrome, pain could arise due to or be associated with neural-muscle injury, chronic inflammation and affective status (Hummel *et al.*, 2008; Johansen *et al.*, 2001; Zhang *et al.*, 2012). Chronic lower back pain caused by a combination of these factors, for example, could be effectively alleviated by acupuncture and other non-pharmacological therapies and ranked the top among the 10 most frequently treated conditions in our survey, further supporting acupuncture's effectiveness on treating pain.

Besides pain, the top-10 list includes three mental health conditions: depression, anxiety and insomnia, among which depression and anxiety also ranked as the top two indications in the top-99 list. In addition, depression and insomnia were chief complaints among acupuncturists from different residential states. Moreover, as an indication category, mental health received the highest votes per indication, suggesting large medical demands on this issue. Taken together, the real-world statistics imply increasing patient needs for maintaining mental wellness, and acupuncture has so far established a positive impression in alleviating mental stress and psychotic or psychosomatic syndromes. These data support acupuncture to be a truly integrative therapy, extending the modality of practice from "musculoskeletal pain" to "mind-body harmony," the core mentality in traditional Chinese medicine. The "mind" aspect of acupuncture deserves more clinical and lab-based

investigations and will require interdisciplinary collaboration between acupuncturists and experts from psychology, psychiatry, neuroscience and biomedical engineering.

The top 10 and top 99 lists, from a practitioner's perspective, illustrated an epidemiological landscape of acupuncture indications in the US market. Analysis of demographic factors, including gender, age, ethnicity, education and clinical experiences, further revealed a unique pattern for each indication. The intrinsic feature of commonality and specialty was estimated for each indication and encourages a strategic renovation in TCM education: (i) to consolidate the foundation, both theories and skills, for common indications; and (ii) to develop medical specialties in particular indications through training and licensing for practices. More specific surveys are required to investigate the experience-based distribution of indications within each acupuncture specialty. Other factors, like clinical setting, insurance coverage, patient composition, working hours per week, annual income, etc. are also interesting to consider in future studies.

Results from our survey collectively outline current status of acupuncture profession and these data would guide acupuncturists in daily practice, patients seeking for medical care, other medical practitioners for referrals, as well as TCM students for career development. The protocol and analysis methods we developed could serve as templates for future studies on different scales, with specifically designed sampling and clearly defined questions. The shortage of scientific or epidemiological data supporting the effectiveness and efficacy of acupuncture in treating many conditions beyond pain urges the medical community to invest more in basic and clinical research, public education and physician-patient communication of acupuncture.

Acknowledgments

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Supplementary Figure

Figure S1. The profile of top 99 indications between US or China educated acupuncturists (California, Asian). Bar charts were used to describe the top 99 indications for US and China educated acupuncturists (California, Asian), sorted by normalized vote numbers (US in blue, China in gray).
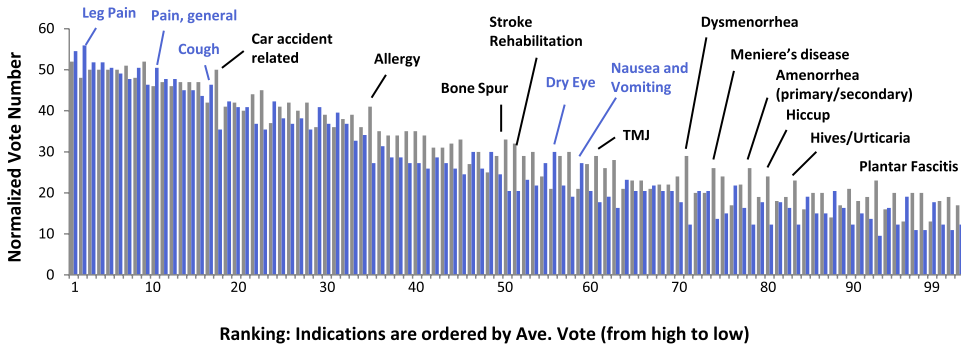
Figure S2. Indication profile comparison between US and China educated acupuncturists (California, Asian). California Asian population was selected for this comparison. Top 99 indications among US- or China-educated acupuncturists were shown in bar chart (US in blue, China in gray).
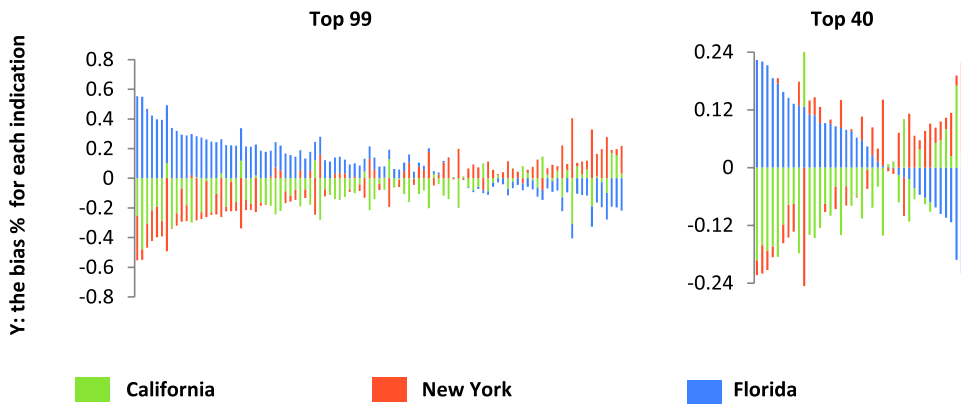
Figure S3. Indication profile comparison among acupuncturists in California, New York and Florida (Asian, China educated). China educated Asian acupuncturists in each state was selected for this comparison. The bias rates of top 99 or top 40 indications were sorted and shown in different colors (California, green; New York, red; Florida, blue).

Supplementary Table

Table S1. Demographic Characteristics and Distributions for All Participants in this Survey.

| Questions	Groups	Total	%	Gender				Primary Education				Ethnicity							
				Female	%	Male	%	China	%	US	%	Asian/PI		Hispanic/Latino		Mixed Race		White	
Questions	Groups	419	100	278	100	141	100	249	100	170	100	342	100%	8	100%	5	100%	64	100%
Gender	Female	278	66																
	Male	141	34																
Primary Education	China	249	59	166	60	83	59												
	US	170	41	112	40	58	41												
Ethnicity	Asian/PI	342	82	226	81	116	82	246	99%	96	56%								
	Hispanic/Latino	8	2	3	1	5	4	0	0%	8	5%								
	Mixed Race	5	1	4	1	1	1	2	1%	3	2%								
	White	64	15	45	16	19	13	1	0%	63	37%								
Age	<30	9	2	5	2	4	3	2	1%	7	4%	4	1%	1	13%	0	0%	4	6%
	30–40	37	9	27	10	10	7	14	6%	23	14%	24	7%	4	50%	1	20%	8	13%
	40–50	102	24	66	24	36	26	62	25%	40	24%	88	26%	1	13%	2	40%	11	17%
	50–60	222	53	153	55	69	49	150	60%	72	42%	191	56%	2	25%	2	40%	27	42%
	>60	49	12	27	10	22	16	21	8%	28	16%	35	10%	0	0%	0	0%	14	22%
Years of Practice	3–10 yrs	119	28	82	29	37	26	18	7%	101	59%	73	21%	7	88%	3	60%	36	56%
	10–20 yrs	104	25	68	24	36	26	54	22%	50	29%	84	25%	1	13%	0	0%	19	30%
	20–30 yrs	103	25	68	24	35	25	89	36%	14	8%	96	28%	0	0%	1	20%	6	9%
	30–40 yrs	86	21	55	20	31	22	81	33%	5	3%	82	24%	0	0%	1	20%	3	5%
	>40 yrs	7	2	5	2	2	1	7	3%	0	0%	7	2%	0	0%	0	0%	0	0%
Practice States	California	109	26	78	28	31	22	60	24%	49	29%	104	30%	1	13%	1	20%	3	5%
	New York	94	22	53	19	41	29	57	23%	37	22%	83	24%	0	0%	0	0%	11	17%
	Florida	67	16	42	15	25	18	34	14%	33	19%	37	11%	7	88%	1	20%	22	34%
	New Jersey	26	6	19	7	7	5	14	6%	12	7%	22	6%	0	0%	0	0%	4	6%
	Ohio	25	6	20	7	5	4	7	3%	18	11%	9	3%	0	0%	1	20%	15	23%
	Texas	18	4	11	4	7	5	15	6%	3	2%	18	5%	0	0%	0	0%	0	0%
	Pennsylvania	14	3	11	4	3	2	8	3%	6	4%	12	4%	0	0%	0	0%	2	3%
	Georgia	13	3	8	3	5	4	11	4%	2	1%	13	4%	0	0%	0	0%	0	0%

Table S1. (*Continued*)

Age					Years of Practice					Total	%	Question	Groups
<30	30–40	40–50	50–60	>60	3–10 yrs	10–20 yrs	20–30 yrs	30–40 yrs	>40 yrs				
9 100%	37 100%	102 100%	222 100%	49 100%	119 100%	104 100%	103 100%	86 100%	7 100%	419	100		
										278	66	Gender	Female
										141	34		Male
										249	59	Primary Education	China
										170	41		US
										342	82	Ethnicity	Asian/PI
										8	2		Hispanic/Latino
										5	1		Mixed Race
										64	15		White
										9	2	Age	<30
										37	9		30–40
										102	24		40–50
										222	53		50–60
										49	12		>60
9 100%	32 86%	35 34%	35 16%	8 16%						119	28	Years of Practice	3–10 yrs
0 0%	4 11%	34 33%	53 24%	13 27%						104	25		10–20 yrs
0 0%	1 3%	33 32%	63 28%	6 12%						103	25		20–30 yrs
0 0%	0 0%	0 0%	71 32%	15 31%						86	21		30–40 yrs
0 0%	0 0%	0 0%	0 0%	7 14%						7	2		>40 yrs
0 0%	9 24%	22 22%	62 28%	16 33%	35 29%	26 25%	24 23%	20 23%	4 57%	109	26	Practice States	California
3 33%	7 19%	22 22%	49 22%	13 27%	23 19%	24 23%	22 21%	25 29%	0 0%	94	22		New York
3 33%	8 22%	14 14%	34 15%	8 16%	20 17%	16 15%	17 17%	14 16%	0 0%	67	16		Florida
1 11%	1 3%	8 8%	14 6%	2 4%	8 7%	12 12%	2 2%	4 5%	0 0%	26	6		New Jersey
2 22%	4 11%	7 7%	10 5%	2 4%	16 13%	4 4%	5 5%	0 0%	0 0%	25	6		Ohio
0 0%	2 5%	2 2%	9 4%	5 10%	3 3%	2 2%	4 4%	6 7%	3 43%	18	4		Texas
0 0%	1 3%	4 4%	9 4%	0 0%	4 3%	3 3%	6 6%	1 1%	0 0%	14	3		Pennsylvania
0 0%	0 0%	10 10%	1 0%	2 4%	0 0%	7 7%	5 5%	1 1%	0 0%	13	3		Georgia

Table S2. Thirteen Categories of the Top 99 Indications.

#	Categorization	Indications (Vote Numbers)
25	Pain	Low back pain/Lumbago/Lumbar vertebrae disorders (358); Arthritis/Joint pain/Rheumatoid arthritis(355); Hip pain(353); Frozen shoulder (349); Headache/Migraine/Tension headache(345); Neck pain/Cervical vertibrae disorders(342); Tennis elbow(342); Pain, general(338); Leg pain(332); Heel pain/Plantar fasciitis(322); Cervical vertebra disorder(295); Golf elbow(292); Sciatica/Piriformis muscle syndrome (291); Osteoarthritis (knee, hip and others)(239); Herniated disc in thoracic and lambarosaccral region(228); Temporomandibular oint pain (TMJ)(220); Herniated disc in neck/cervical region(214); Gout(200); Plantar fasciitis(200); Trigger finger(195); Bone spurs(188); Pelvic pain/Low abdominal pain(180); Hip Bursitis(159); Dental pain/Toothache(157); Tail bone pain/Sacrococcygeal pain(152)
12	Gastrointestinal	Constipation (302); Diarrhea(274); Heart burn(266); Irritable bowel syndrome (IBS)(258); Indigestion(258); Obesity/Overweight(247); Gastritis(232); Nausea and vomiting, general (post chemo, operation etc.)(207); Gasy/Stomach or abdominal distention/Flatulence(197); Inflammatory bowel disease(Ulcerative colitis/Crohn's disease(197); GERD(175); Colitis, general(157)
11	Neurology	Dizziness (332); Bell's plasy(322); Xarpal tunnel syndrome (CTS)(312); Numbness(267); Vertigo(248); Stroke rehabilitation(212); Trigeminal neuralgia(TN)(175); Peripheral neuropathy(161); Intercostal nerve pain/Neuropathy(157); Loss of memory/Poor memory(151); Restless leg syndromes(148)
11	Gynecology	Infertility (female)(331); Menopausal syndrome(301); Irregular menstruation(284); Morning sickness/Nausea vomiting (related to pregnancy) (222); Dysmenorrhea(209); Premenstrual syndrome(PMS)(182); Endometriosis(175); Menorrhalgia/Menalgia/Dysmenorrhea(162); Amenorrhea (primary or secondary)(156); Pain or symptoms related pregnancy(136); PCOS(129)
10	Internal Medicine	Cough (293); Cold/flu(285); Hypertension(267); Hormonal imbalance(199); Acne(194); Edema(194); Diabetes mellitus/Metabolic syndrome (171); Hypothyroidism(146); Hyperthyroid(138); Irregular heartbeat/Arrhythmia(119)
7	Mental health	Depression (384); Insomnia(378); Anxiety/Panic attack(347); Chronic fatigue syndrome (304); Smoking cessation/Quit smoking(219); Nervousness(189); Drug addiction and withdraw syndrome(134)
5 (6*)	Immune Disorder	Allergy (seasonal, pollen, food etc.)(335); Fibromyalgia(290); Allergic Rhinitis(276); Asthma(272); Multiple sclerosis(129); (Arthritis/Joint pain/Rheumatoid arthritis(355)*)
5	Eye Ear Nose Throat	Sinusitis (262); Tinnitus(261); Menieres disease(154); Dry eye(145); Post nasal drip(129)
5	Dermatology	Herpes zoster/Shingles (217); Dermatitis/Eczema/Atopic dermatitis(182); Cosmetic acupuncture/Facial beauty(153); Hives/Urticaria(148); Itching/Pruritus(137)
4	Reproductive/Urology	Urinary frequency/Urgency urination (158); Infertility (male)/sperm disorders(154); Sexual dysfunction/Low desire/Intercourse pain(137); Urinary incontinence(120)
2	Oncology	Cancer supporting treatment (227); Breast cancer care (all stages)/Cancer supporting treatment(132)
1	Injury	Car accident related disorders and issues (279)
1	Wellbeing	Wellbeing, acupuncture maintenance (256)

Note: *Arthritis was categorized into "pain", however its rheumatoid subtype also belongs to "immune disorder".

Table S3. Demographic Characteristics of US and China Educated Acupuncturists (California Asian).

Ethin.	Resident State	Primary Edu.	# of Survey	Female	Male	Years of Practice					Age				
						3–10	10–20	20–30	30–40	> 40	< 30	30–40	40–50	50–60	> 60
Asian	California	US	44	35** 80%	9 20%	27 61%	13 30%	3 7%	1 2%	0 0%	0 0%	4 9%	10 23%	23 52%	7 16%
Asian	California	China	60	41 68%	19 32%	4 7%	12 20%	21 35%	19 32%	4 7%	0 0%	3 5%	11 18%	37 62%	9 15%

Table S4. Demographic Characteristics of Acupuncturists in California, New York and Florida (Asian, China Educated).

Ethin.	Primary Edu.	State	# of Survey	Female	Male	Years of Practice					Age				
						3–10	10–20	20–30	30–40	> 40	< 30	30–40	40–50	50–60	> 60
Asian	China	California	60	41 68%	19 32%	4 7%	12 20%	21 35%	19 32%	4 7%	0 0%	3 5%	11 18%	37 62%	9 15%
Asian	China	New York	55	34 62%	21 38%	5 9%	10 18%	19 35%	21 38%	0 0%	1 2%	3 5%	11 20%	35 64%	5 9%
Asian	China	Florida	34	21 62%	13 38%	2 6%	6 18%	12 35%	14 41%	0 0%	1 3%	3 9%	10 29%	19 56%	1 3%

Table S5. The Top 10 Indications in Florida, New York and California (China Educated, Asian).

	Florida			New York			California	
1	Insomnia**	60.0	1	Depression**	60.0	1	Depression**	52.0
2	Depression**	58.2	2	Insomnia**	56.7	1	Arthritis/Joint Pain/RA**	52.0
2	Anxiety/Panic Attack	58.2	3	Low Back Pain*	55.6	3	Hip Pain*	51.0
4	Infertility (female)*	56.4	3	Allergy (seasonal/food)	55.6	4	Car Accident Related	50.0
4	Bell's Palsy	56.4	5	Frozen Shoulder**	53.5	4	Tennis Elbow*	50.0
6	Arthritis/Joint Pain/RA**	54.5	5	Headache/Migraine	53.5	4	Neck Pain*	50.0
7	Frozen Shoulder**	52.7	7	Infertility (female)*	52.4	4	Frozen Shoulder**	50.0
7	Dizziness	52.7	8	Arthritis/Joint Pain/RA**	50.2	4	Low Back Pain*	50.0
9	Cervical Vertebra Disorder	50.9	8	Hip Pain*	50.2	9	Leg Pain	48.0
10	Fibromyogia	50.9	10	Neck Pain*	49.1	9	Insomnia**	48.0
10	Allergic Rhinitis	50.9	10	Tennis Elbow*	49.1			

Note: *Top 10 in two of the three states.
**Top 10 in all three states.

Table S6. The Questionnaire used in this Study.

* 1. Are you male or female? (Select one option)

◯ Male ◯ Female

* 2. In which state(s) do you currently practice TCM? (Select all that apply)

☐ Alabama	☐ Indiana	☐ Nebraska	☐ South Carolina
☐ Alaska	☐ Iowa	☐ Nevada	☐ South Dakota
☐ Arizona	☐ Kansas	☐ New Hampshire	☐ Tennessee
☐ Arkansas	☐ Kentucky	☐ New Jersey	☐ Texas
☐ California	☐ Louisiana	☐ New Mexico	☐ Utah
☐ Colorado	☐ Maine	☐ New York	☐ Vermont
☐ Connecticut	☐ Maryland	☐ North Carolina	☐ Virginia
☐ Delaware	☐ Massachusetts	☐ North Dakota	☐ Washington
☐ Florida	☐ Michigan	☐ Ohio	☐ West Virginia
☐ Georgia	☐ Minnesota	☐ Oklahoma	☐ Wisconsin
☐ Hawaii	☐ Mississippi	☐ Oregon	☐ Wyoming
☐ Idaho	☐ Missouri	☐ Pennsylvania	
☐ Illinois	☐ Montana	☐ Rhode Island	
☐ Other (Please specify) _____			

* 3. What is your age? (Select one option)

○ Under 30

○ 30-40

○ 40-50

○ 50-60

○ Older than 60

* 4. Please specify your ethnicity. (Select one option)

○ White

○ Hispanic or Latino

○ Black or African American

○ Native American or American Indian

○ Asian / Pacific Islander

○ Other (Please specify) _____

* 5. How many years have you practiced acupuncture? (Select one option)

○ 0-10 years

○ 10-20 years

○ 20-30 years

○ 30-40 years

○ More than 40 years

* 6. Where did you receive your primary acupuncture education and training? (Select one option)

○ The United States

○ China

○ Other (Please specify) _____

* 7. Please select the top 99 most common conditions treated in your acupuncture clinic. (All conditions below are in alphabetical order. You may select less than 99 conditions based on clinic experience. Please do not exceed 99 selections) [Please select at most 99 options.]

☐ Acne	☐ Depression	☐ Immune (idiopathic) thrombocytopenic purpura (ITP)	☐ Pain, general
☐ ADHD/ ADD	☐ Dermatitis/ Eczema/ Atopic dermatitis	☐ Indigestion	☐ Palpitation/ Tachycardia/ Bradycardia
☐ Adhesions, Post operative	☐ Diabetes mellitus/ Metabolic syndrome	☐ Infertility (female)	☐ Parkinson's disease
☐ Alcoholism	☐ Diarrhea	☐ Infertility (male)/ sperm disorders	☐ PCOS
☐ Allergic Rhinitis	☐ Dizziness	☐ Inflammatory bowel disease (Ulcerative colitis/ Crohn's disease)	☐ Pelvic inflammation, acute and chronic

☐ Allergy (seasonal, pollen, food etc.)	☐ Drug addiction and withdraw syndrome	☐ Insomnia	☐ Pelvic pain/ Low abdominal pain
☐ Alopecia, Alopecia areata and other types	☐ Dry eye	☐ Intercostal nerve pain/ Neuropathy	☐ Pemphigus, general
☐ Amenorrhea (primary or secondary)	☐ Dry Mouth	☐ Interstitial cystitis	☐ Peripheral neuropathy
☐ Amyotrophic lateral Sclerosis (ALS)	☐ Dysmenorrhea	☐ Irregular heartbeat/ Arrhythmia	☐ Pigmented disorders/ Lentigo/ Melasma
☐ Anxiety/ Panic attack	☐ Edema	☐ Irregular menstruation	☐ Plantar fasciitis
☐ Arthritis/Joint pain, Rheumatoid arthritis	☐ Endometriosis	☐ Irritable bowel syndrome (IBS)	☐ Post nasal drip
☐ Asthma	☐ Erectile disorder (ED)	☐ Itching/ Pruritus	☐ Postpartum syndrome
☐ Atrial fibrillation	☐ Esophagitis	☐ Labor induction/ Post term pregnancy	☐ Premature Ejaculation
☐ Autism	☐ Eye and vision disorders	☐ Laryngitis/ Pharyngitis/ Sore Throat	☐ Premature ovarian failure (POF)
☐ Bad breath	☐ Fibromyalgia	☐ Leaky gut syndrome	☐ Premenstrual syndrome (PMS)
☐ Bad taste	☐ Frozen shoulder	☐ Leg pain	☐ Pressure ulcer/ Bedsore
☐ Bed wetting(Enuresis)	☐ Ganglion cyst	☐ Leukopenia	☐ Prostatitis, acute and chronic
☐ Bell's palsy	☐ Gastritis	☐ Lipoma	☐ Psoriasis, all types
☐ Benign prostatic hyperplasia (BPH)	☐ Gasy/ Stomach or abdominal distention/ Flatulence	☐ Loss of memory/Poor memory	☐ Raynaud's disease
☐ Bipolar disorder	☐ Genital Itch/ Pain / Pruritus	☐ Loss of smell/ Parosmia	☐ Restless leg syndromes
☐ Bone spurs	☐ GERD	☐ Loss of taste/ Parageusia	☐ Rosacea
☐ Breast cancer care (all stages)/Cancer supporting treatment	☐ Globus hystericus	☐ Loss of voice/ Aphonia	☐ Sciatica/ Piriformis muscle syndrome
☐ Breeched baby	☐ Golf elbow	☐ Low back pain/ Lumbago/ Lumbar vertebrae disorders	☐ Seizure/ Pseudo seizure
☐ Bulimia nervosa	☐ Gout	☐ Lupus erythematosus (systematic or discoid)	☐ Sexual dysfunction/ Low desire/ Intercourse pain
☐ Cancer supporting treatment	☐ Grave's disease	☐ Lyme disease	☐ Sinusitis
☐ Candida	☐ Guillain-Barre syndrome (GBS)	☐ Lymphoedema	☐ Sjögren's syndrome
☐ Canker sore/ Oral ulcer	☐ Head injury	☐ Macular degeneration	☐ Sleep apnea
☐ Car accident related disorders and issues	☐ Headache/Migraine/Tension headache	☐ Meniere's disease	☐ Smoking cessation/ Quit smoking

- ☐ Carbuncles/ Folliculitis/Ulcer
- ☐ Cardiac dysrhythmias
- ☐ Carpal tunnel syndrome (CTS)
- ☐ Cervical vertebra disorder
- ☐ Chronic fatigue syndrome
- ☐ Cold/ flu
- ☐ Colic
- ☐ Colitis, general
- ☐ Compartment syndrome (muscle and soft tissue)
- ☐ Concussion
- ☐ Conjunctivitis (pink eye)
- ☐ Constipation
- ☐ Cosmetic acupuncture / Facial beauty
- ☐ Cough
- ☐ CRPS (Complex Regional Pain Syndrome)
- ☐ Cystic fibrosis
- ☐ Deafness, hearing loss
- ☐ Dementia/ Alzheimer's disease
- ☐ Dental pain/Toothache
- ☐ Other (Please specify) _____

- ☐ Heart burn
- ☐ Heel pain/ Plantar fasciitis
- ☐ Hemorrhoid/ Anal fistus
- ☐ Herniated disc in neck/cervical region
- ☐ Herniated disc in thoracic and lambarosaccral region
- ☐ Herpes simplex
- ☐ Herpes zoster/ Shingles
- ☐ Hiccup
- ☐ Hip Bursitis
- ☐ Hip pain
- ☐ Hives/Urticaria
- ☐ Hormonal imbalance
- ☐ Hyperhidrosis
- ☐ Hypertension
- ☐ Hyperthyroid
- ☐ Hypogalactia
- ☐ Hypohidrosis/Anhidrosis
- ☐ Hypotension
- ☐ Hypothyroidism

- ☐ Menopausal syndrome
- ☐ Menorrhalgia/ Menalgia/ Dysmenorrhea
- ☐ Miscarriage prevation/ Tocolysis
- ☐ Morning Sickness/ Nausea vomiting
- ☐ Motor tic disorder
- ☐ Mouth pain/ Tongue pain
- ☐ Multiple sclerosis
- ☐ Myasthenia gravis
- ☐ Myoclonic jerks
- ☐ Nausea and vomiting, general (post chemo, operation etc.)
- ☐ Neck pain/Cervical vertibrae disorders
- ☐ Nervousness
- ☐ Neurogenic bladder
- ☐ Numbness
- ☐ Obesity/Overweight
- ☐ Obsessive-compulsive disorder (OCD)
- ☐ Osteoarthritis (knee, hip, and others)
- ☐ Ovarian cyst/ Benign ovarian tumor
- ☐ Pain or symptoms related pregnancy

- ☐ Stroke rehabilitation
- ☐ Tail bone pain/ Sacrococcygeal pain
- ☐ Temporomandibular joint pain (TMJ)
- ☐ Tennis elbow
- ☐ Tinnitus
- ☐ Tonsillitis
- ☐ Torticollis
- ☐ Tremor
- ☐ Trigeminal neuralgia (TN)
- ☐ Trigger finger
- ☐ Urethra pain
- ☐ Urinary frequency/ Urgency urination
- ☐ Urinary incontinence
- ☐ Urinary tract infection (upper or lower)
- ☐ Uterus fibroids
- ☐ Vertigo/ Dizziness
- ☐ Visceroptosis
- ☐ Vitreous opacities
- ☐ Well being, acupuncture maintenance

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* 8. Please select the top 10 most common conditions treated in your acupuncture clinic. (All conditions below are in alphabetical order) [Please select exactly 10 options.]

- ☐ Acne
- ☐ ADHD/ ADD

- ☐ Depression
- ☐ Dermatitis/ Eczema/ Atopic dermatitis

- ☐ Immune (idiopathic) thrombocytopenic purpura (ITP)
- ☐ Indigestion

- ☐ Pain, general
- ☐ Palpitation/ Tachycardia/ Bradycardia

☐ Adhesions, Post operative	☐ Diabetes mellitus/ Metabolic syndrome	☐ Infertility (female)	☐ Parkinson's disease
☐ Alcoholism	☐ Diarrhea	☐ Infertility (male)/ sperm disorders	☐ PCOS
☐ Allergic Rhinitis	☐ Dizziness	☐ Inflammatory bowel disease (Ulcerative colitis/ Crohn's disease)	☐ Pelvic inflammation, acute and chronic
☐ Allergy (seasonal, pollen, food etc.)	☐ Drug addiction and withdraw syndrome	☐ Insomnia	☐ Pelvic pain/ Low abdominal pain
☐ Alopecia, Alopecia areata and other types	☐ Dry eye	☐ Intercostal nerve pain/ Neuropathy	☐ Pemphigus, general
☐ Amenorrhea (primary or secondary)	☐ Dry Mouth	☐ Interstitial cystitis	☐ Peripheral neuropathy
☐ Amyotrophic lateral Sclerosis (ALS)	☐ Dysmenorrhea	☐ Irregular heartbeat/ Arrhythmia	☐ Pigmented disorders/ Lentigo/ Melasma
☐ Anxiety/ Panic attack	☐ Edema	☐ Irregular menstruation	☐ Plantar fasciitis
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☐ Asthma	☐ Erectile disorder (ED)	☐ Itching/ Pruritus	☐ Postpartum syndrome
☐ Atrial fibrillation	☐ Esophagitis	☐ Labor induction/ Post term pregnancy	☐ Premature Ejaculation
☐ Autism	☐ Eye and vision disorders	☐ Laryngitis/ Pharyngitis/ Sore Throat	☐ Premature ovarian failure (POF)
☐ Bad breath	☐ Fibromyalgia	☐ Leaky gut syndrome	☐ Premenstrual syndrome (PMS)
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☐ Bell's palsy	☐ Gastritis	☐ Lipoma	☐ Psoriasis, all types
☐ Benign prostatic hyperplasia (BPH)	☐ Gasy/ Stomach or abdominal distention/ Flatulence	☐ Loss of memory/Poor memory	☐ Raynaud's disease
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☐ Bone spurs	☐ GERD	☐ Loss of taste/ Parageusia	☐ Rosacea
☐ Breast cancer care (all stages)/Cancer supporting treatment	☐ Globus hystericus	☐ Loss of voice/ Aphonia	☐ Sciatica/ Piriformis muscle syndrome
☐ Breeched baby	☐ Golf elbow	☐ Low back pain/ Lumbago/ Lumbar vertebrae disorders	☐ Seizure/ Pseudo seizure
☐ Bulimia nervosa	☐ Gout	☐ Lupus erythematosus (systematic or discoid)	☐ Sexual dysfunction/ Low desire/ Intercourse pain
☐ Cancer supporting treatment	☐ Grave's disease	☐ Lyme disease	☐ Sinusitis

- [ ] Candida
- [ ] Canker sore/ Oral ulcer
- [ ] Car accident related disorders and issues
- [ ] Carbuncles/ Folliculitis/Ulcer
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- [ ] Carpal tunnel syndrome (CTS)
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- [ ] Hyperthyroid
- [ ] Hypogalactia
- [ ] Hypohidrosis/Anhidrosis
- [ ] Hypotension
- [ ] Hypothyroidism

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- [ ] Tinnitus
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- [ ] Tremor
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- [ ] Trigger finger
- [ ] Urethra pain
- [ ] Urinary frequency/ Urgency urination
- [ ] Urinary incontinence
- [ ] Urinary tract infection (upper or lower)
- [ ] Uterus fibroids
- [ ] Vertigo/ Dizziness
- [ ] Visceroptosis
- [ ] Vitreous opacities
- [ ] Well being, acupuncture maintenance

- [ ] Other (Please specify) _____

9. (optional) Please leave a valid email address to receive the ICD 10 Reference Chart for Acupuncture Clinic as a thank you for your participation.

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