Physicians and Complementary-Alternative Medicine: Training, Attitudes, and Practices in Hawaii

Pon-Sang Chan MD and Michelle M. Wong BS

Pon-Sang Chan MD

Michelle M. Wong BS

Correspondence to:
Pon-Sang Chan MD
1314 S. King St., #707
Honolulu, HI 96814
fax: (808) 593-0922

Abstract

Introduction: *There were only few studies addressing the physicians' training, attitudes, and utilization of complementary and alternative medicine (CAM) therapies, compared to the well-documented escalating use of CAM among consumers. Patients who use CAM, however, often do not disclose their utilization to their physicians. This study thus surveyed knowledge, attitudes, and practices of complementary and alternative medicine among physicians on the island of Oahu in Hawaii. The Hawaii Medical Service Association (HMSA) provided physicians' names and contact information.*

Method: *This is a descriptive study with a questionnaire that was mailed to all physicians on the list. A total of 299 physicians responded to this survey. Response rate was 17.45%.*

Results: *Physicians reported having moderate acknowledge in acupuncture, massage, prayer/spirituality, chiropractic, hypnosis and meditation. They recognized the value of these treatments and refer their patients to have these treatments. On the other hand, homeopathy, naturopathy, electromagnetic therapies, therapeutic/healing touch, and nutriceuticals were consistently rated as having no role in conventional medicine, strongly opposed to in practice, or would not refer patients to. Respondents felt CAM could be most effective for pain, musculoskeletal, psychological conditions and smoking cessation.*

Discussions: *Results indicated that the respondents had knowledge about prayer/spirituality, massage, chiropractic, meditation, hypnosis, and acupuncture, and also rated them as playing a role in conventional medicine, and would refer or have referred patients to. When they had little knowledge about naturopathy, electromagnetic therapies, nutriceuticals, and homeopathy, they rated these therapies as having no role in conventional medicine, and were strongly opposed to in practice or would not refer patients to. Respondents reported the least know abut the Aryurveda and Native American medicine. However, there was no significant correlation between negative attitude and practice patterns. Similarly, therapeutic touch and chiropractic were perceived as therapies, but no role in conventional medicine although the respondents reported having some knowledge of these therapies. Thus, knowledge may not be necessarily associated with negative attitudes and practice patterns.*

Introduction

While many studies have documented the increasing complementary and alternative medicine (CAM) usage among consumers, fewer have focused on physicians' training, attitudes, and utilization of CAM. Patients who use CAM, however, often do not disclose their utilization to their physicians. Previous studies found that physicians were open toward referring patients to CAM services as well as receiving training in CAM therapies, though few utilized CAM therapies in their practice. This survey addressed knowledge, attitudes, and practice of CAM among all physicians on the island of Oahu in Hawaii based on the list provided by the HMSA. Given the vast amount and array of CAM therapies available, surveying physicians on these issues is one way to direct future research and education of CAM, as physicians are the primary caregivers and might play essential roles in the dynamic changes in healthcare.

Methods

This was a survey with a structured questionnaire that was mailed to all physicians on the list provided by the HMSA. Physicians on the list provided by the HMSA represents a comprehensive list of all practicing physicians on Oahu. The list of practicing physicians on Oahu in November 2001 totaled 1713 physicians. A total of 299 physicians responded to this survey. The response rate was 17.45%. Although the response rate was low, there was no need for large sample size of respondents because of relatively homogenous among the physician population, compared to the general public.[1]

The respondents self-reported amount of training, own attitudes, and actual practice of conventional medicine. Demographic data was also collected, including age, gender, ethnicity, generation, specialty, and medical degree.

Data Collection

A cover letter from the principal investigator and a letter of support from other physicians on Oahu from various specialties and regions were sent with the survey instrument. The survey instrument was developed by the PI based on existing literature of national and regional surveys assessing physician knowledge, attitudes, and practice of CAM.[2-5]

In the first mailing wave, all 1713 physicians on the HMA list were mailed surveys with cover letters and mailers to facilitate easy returns. Databases were maintained to track respondents who entered their name in an optional area of the survey. In the second mailing wave, all physicians on the list were mailed another request to complete the survey, except those respondents we were able to track.

Assessment Variables

Three primary variables for this study were: (1) training/knowledge, (2) attitude, and (3) usage/practice. Twenty-two CAM therapies were chosen based on previous consumer utilization studies. Categories were defined by those proposed by the 1998 National Center for Complementary and Alternative Medicine report [Table 1].[6]

Training was defined in this study as any formalized education, as an indicator of knowledge. Amounts of training physicians had received were examined by the following questions.

- Did you have previous training in CAM? Yes/ No
- If yes, in which CAM therapy and how many hours of training (less than 200 hours, 200-500 hours, more than 500 hours)
- Would you like to have CAM training in the future? Yes / No
- If yes, in which CAM therapy

Attitude was defined as the degree respondents felt that CAM therapies belonged in medicine. Respondents rated each of the 22 CAM therapies on a scale of 1-4.

1 = little knowledge of the therapy, 2 = belongs outside of medicine, 3 = is a legitimate medical system within its cultural context, and 4 = has a role in conventional medicine.

Attitude data was assessed in the following ways:

- Attitude ratings of 22 CAM therapies from 1-4
- Do you perceive CAM therapies as effective treat ments for specific conditions?
- If you answer yes, at what conditions will you use CAM and which CAM therapy will use choose?
- Why CAM may be effective

Table 1.— Selection of CAM therapies

CAM therapies assessed in this study. Categories suggested by 1998 NCCAM report.

Alternative Medical Systems
Traditional Chinese Medicine
Aryuveda (Traditional Indian Medicine)
Native American Medicine
Hawaiian/Polynesian Medicine
Homeopathy
Naturopathy

Biologically Based Therapies
Herbal Medicine (Chinese, Hawaiian, etc.)
Special diet therapies (e.g. macrobiotic, yeast-free etc.)
Nutriceuticals

Energy Therapies
Electromagnetic/magnetic therapies
Qi gong
Reiki
Therapeutic/Healing Touch

Mind-Body Interventions
Meditation
Hypnosis
Dance/Music/Art therapy
Prayer/Spirituality
Guided Imagery

Manipulative/Body-Based Therapies
Massage
Chiropractic
Acupuncture
Acupressure

Practice was defined as the extent to which physicians use or refer patients to CAM therapies. Respondents rated each of the 22 CAM therapies in terms of referrals on a scale of 1-5. 1= little knowledge of the therapy, 2 = strongly opposed to use, 3 = would not use/refer, 4 = would/have referred or would use, 5 = have used or referred patients to CAM therapies.

Practice data was assessed in the following ways:

- Degree of usage or referral of 22 CAM therapies, from 1-5
- Conditions respondents would or have used/referred to CAM therapies, and for which CAM therapies
- Why would the respondent incorporate CAM into practice
- Why would the respondent not incorporate CAM into practice
- Has the respondent had personal experience with patients using CAM therapies
- If so, what is the response to this patient using CAM

Table 2.— Mean scores in the CAM therapies

Little knowledge in	M	No role in conventional medicine	M	Role in its cultural context	M	Role in conventional medicine	M
Ayurveda	64.0	Homeopathy	33.7	TCM	37.7	Acupuncture	46.0
Native American	62.7	Naturopathy	31.7	HI/Polynesian	28.7	Massage	40.7
Reiki	62.3	E/M Therapy	28.0	Herbal Medicine	27.0	Hypnosis	39.3
Qi Gong	58.0	Therapeutic	28.0	Acupuncture	24.0	Meditation	36.3
Nutriceuticals	47.3	Chiropractic	26.0	Acupressure	23.3	Special diet therapies	33.3
HI/Polynesian	46.3	Dance/Mu/Art Therapy	19.7	Prayer/ Spirituality	22.7	Acupressure	32.3
Naturopathy	44.3	Nutriceuticals	19.7	Native American	20.3	Prayer/ Spirituality	32.0
E/M Therapy	44.3	Prayer/ Spirituality	19.3	Meditation	20.3	Chiropractic	31.0
Homeopathy	41.3	Special diet therapies	17.0	Dance/Mu/Art Therapy	18.0	Herbal Medicine	29.3
Guided Imagery	38.3	Guided Imagery	16.7	Massage	18.0	Dance/Mu/Art Therapy	28.3
TCM	33.7	Massage	15.3	Chiropractic	18.0	Guided Imagery	25.7
Therapeutic	33.3	Qi Gong	15.3	Ayurveda	17.0	Nutriceuticals	17.7
Dance/Mu/Art Therapy	28.7	Meditation	14.7	Hypnosis	16.7	TCM	17.7
Special diet therapies	28.0	Reiki	14.3	Therapeutic	16.3	Therapeutic	16.3
Acupressure	26.3	Hypnosis	14.0	Special diet therapies	15.7	E/M Therapy	12.3
Hypnosis	25.3	Herbal Medicine	13.3	Homeopathy	15.3	HI/Polynesian	9.3
Herbal Medicine	24.3	HI/Polynesian	12.7	Guided Imagery	13.0	Ayurveda	8.3
Meditation	23.0	Acupressure	12.7	Qi Gong	13.0	Qi Gong	8.3
Prayer/ Spirituality	20.7	Acupuncture	9.3	Reiki	10.7	Homeopathy	7.0
Massage	20.7	TCM	9.3	Naturopathy	10.3	Naturopathy	7.0
Chiropractic	19.0	Native American	8.7	E/M Therapy	9.3	Reiki	7.0
Acupuncture	16.3	Ayurveda	8.0	Nutriceuticals	8.3	Native American	5.7

Results

Training. Most of the respondents did not have CAM training (59.2%) but fewer responded that they did not want CAM training in the future (36.8%). About the same amount (25.4%) that had CAM training were also interested in CAM training in the future (26.4%). Of those that wanted CAM training, most were interested in acupuncture/Eastern therapies (87%), or herbs/nutriceuticals (70%).

Attitudes toward efficacy. As shown in Table 2, respondents rated acupuncture (46.0%) and massage (40.7%) as modalities that play the most role in conventional medicine. Hypnosis (39.3%), meditation (36.3%), special diet therapies (33.3%), acupressure (32.3%), prayer/spirituality (32.0%), and chiropractic (31.0%) were also rated high in playing a role in conventional medicine. Traditional Chinese Medicine (37.7%), Hawaiian/Polynesian (28.7%), and Herbal Medicine (27.0%) were rated as playing a role within a cultural context. Homeopathy (33.7%), naturopathy (31.7%), electromagnetic therapies (28.0%) and therapeutic touch (28.0%) were rated as having no role in conventional medicine, relative to other therapies.

Practice Patterns. Most respondents replied to the question of CAM utilization through their referral patterns, depicted in Figure 1. An average of 33% would not use or refer patients to CAM therapies while 25% would or have referred patients. Yet only 5% would use or have used CAM therapies in their practice. Another 5% were strongly opposed to incorporating CAM therapies into practice. Of the listed CAM therapies, respondents have used prayer/spirituality (10%), meditation (9.7%), herbal medicine (9.7%), massage (9.3%), and special diet therapies (8%) in their practices, as shown in Table 3. They would also use massage (12.3%) or acupuncture (10.7%) in their practices, and still, would refer or have referred to acupuncture (48.3%), massage (42.3%), chiropractic (38.3%), hypnosis (36.3%), acupressure (34.0%), and prayer/spirituality (33.3%). They would not refer/use or were strongly opposed to Ayruveda, Native American medicine, homeopathy, naturopathy, electromagnetic therapies, nutriceuticals, therapeutic/healing touch, qi gong and reiki.

Conditions that CAM is effective for, or respondents would refer or utilize CAM in practice. Most respondents agreed that CAM is effective for a specific condition (86.3%). Respondents consistently ranked pain, musculoskeletal, psychological conditions and smoking cessation, as conditions CAM is most effective for, or would use or refer to a CAM therapy [Figure 2].

Reasons to incorporate/not incorporate CAM in practice. Most common reasons to refer patients to CAM therapies include: patient's request or preference (26%), patient's lack of response to conventional treatments (20%), or there is a synergy between CAM and patients' cultural beliefs (18%). Fewer responded because of scientific studies that show efficacy (12%), CAM offers a holistic approach (11%), or CAM offers fewer adverse effects (10%). Respondents were asked about CAM in general.

Physician personal experience with CAM. Most respondents have had personal experience with patients using CAM (73%), and the most common response to patient utilization was to provide patients with their knowledge of the CAM therapy, then refer the patient to additional resources. Respondents were asked about CAM in general.

Scope of practice. Respondents were relatively divided when asked if practicing CAM therapies is within the scope of a MD license. 36% answered no, 31% answered yes, and 27% did not know. Respondents were asked about CAM in general.

Discussion

We found that the sample (those who responded) closely represents the population on the HMSA listing, with respect to gender and medical specialty. The sample and population were similar in the ratio of gender, 75% male and 25% female with a percent difference of less than 1.3% (Figure 3). The sample and population were also similar in medical specialty, with internal medicine represented the most in both the sample and population.

Physician knowledge and training in CAM were correlated with physicians' attitudes and practice referral patterns in many, but not all, forms of CAM. Respondents had knowledge in prayer/spirituality, massage, chiropractic, acupuncture, meditation, and hypnosis as modalities, and rated these as having a role in conventional medicine, and would refer or have referred patients to. Respondents answered they had little knowledge about naturopathy, electromagnetic therapies, homeopathy, and nutriceuticals, and ranked these therapies as having no role in conventional medicine, and were strongly opposed to in practice or would not refer patients to. Aryurveda and Native American medicine were ranked the modalities respondents knew the least about, yet did not necessarily correlate with negative attitude or practice patterns. Similarly, therapeutic touch and chiropractic were ranked high in therapies that have no role in conventional medicine, yet were not ranked high in having little knowledge of. Therapeutic touch was also rated as strongly opposed to utilizing in practice. Thus, perhaps knowledge does not necessarily correlate with negative attitudes and practice patterns.

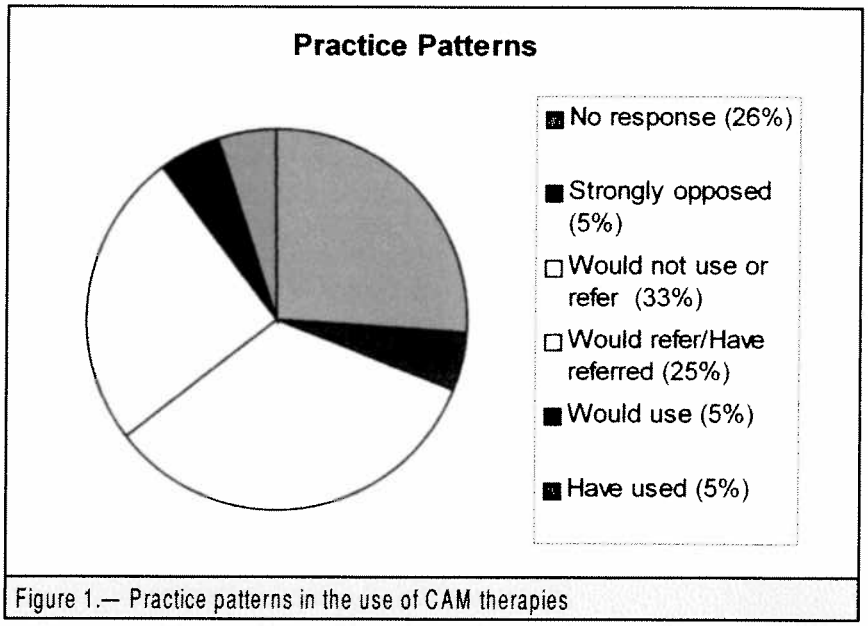

Figure 1.— Practice patterns in the use of CAM therapies

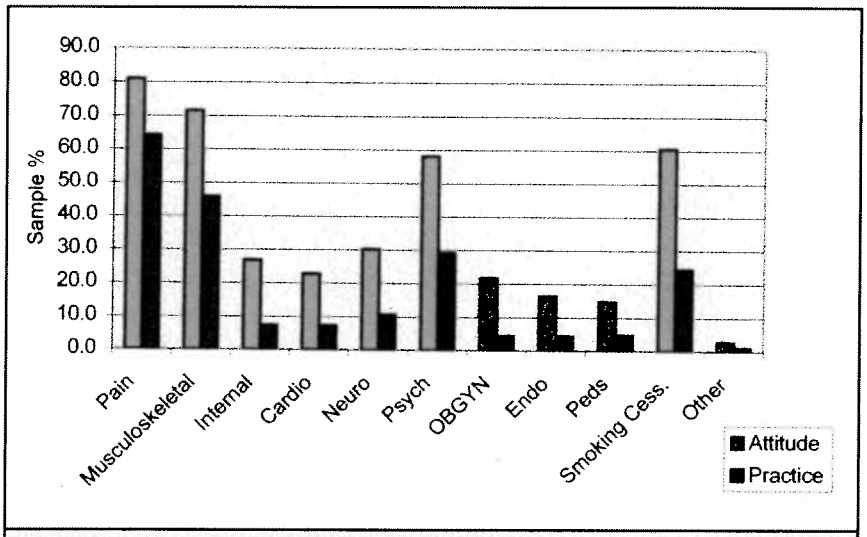

Figure 2.— Conditions in effective usage of CAM

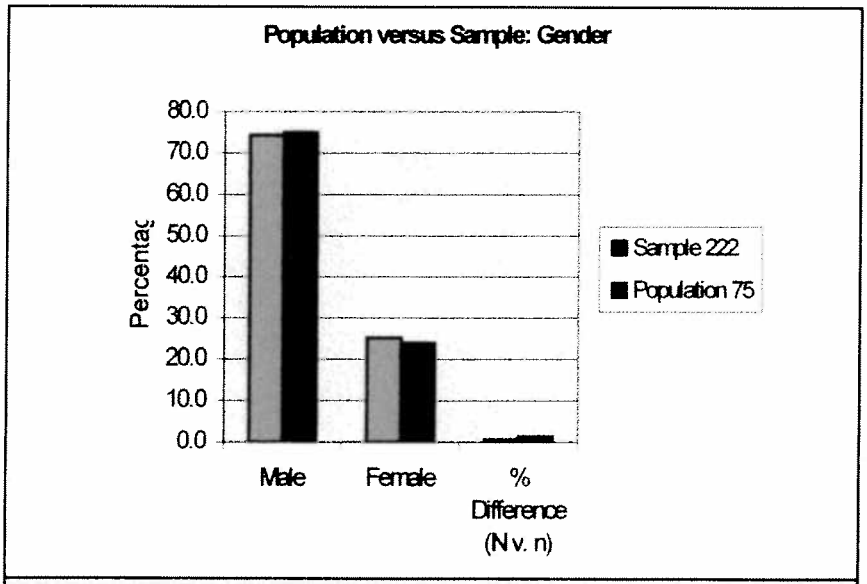

Figure 3.— Gender ratio in the respondents

One may naturally speculate that physicians in Hawaii favor the training of CAM and have positive attitudes and practice of CAM therapies because of Hawaii's diverse ethnic population and inherently more familiar with healing systems outside of conventional medicine. In a nationwide literature review of physicians and their incorporation of CAM, Astin et al (1999) cited that the extent to which CAM is accepted, practiced, or referred might vary with region or culture. For example, greater acceptance of homeopathy and herbal medicine was found among physicians in Kassel, Germany. They concluded that regional differences in familiarity, and availability of CAM therapies were the most likely cause of these variations. It is therefore not surprising that Astin et al found that the most popular therapies among consumers matched the therapies most utilized, referred to, and accepted by physicians: in the United States, rate relaxation techniques, chiropractic, and massage are most popular among physicians and consumers while in Germany, homeopathy and herbal medicine are most popular.[7]

Physician respondents in this study consistently had positive attitudes and practice patterns for prayer/spirituality, massage, acupuncture, chiropractic, meditation, and hypnosis. It is interesting to note that three of these six modalities are mind-body therapies. A disparity in attitudes toward chiropractic services, however, was found among physician respondents. Chiropractic was rated as both having a role (26%) and not having a role in conventional medicine (31%). Yet respondent ranked chiropractic services as would use or refer to in practice (38.3%), third after acupuncture and massage. This suggests that physicians' attitudes toward chiropractic are more vary than that toward acupuncture or massage.

As suggested, familiarity, availability, and popularity of these therapies may affect these trends. First, the State of Hawaii recognizes licenses for acupuncture, massage, chiropractic, and naturopathy, yet respondents consistently rated naturopathy as having no role in conventional medicine or would not use or refer patients to. On the other hand, respondents ranked prayer/spirituality and other mind-body therapies with a positive attitude and practice pattern. This may be because of regional factors in Hawaii, as prayer and spirituality frame the Hawaiian healing tradition where healers believe healing is 80% faith.[8] In addition, the ethnic diversity and rich Asian population in Hawaii naturally leads the population in Hawaii to be more familiar with other medical systems including Traditional Chinese Medicine and Hawaiian healing. Therefore, Hawaii theoretically has more access to these healing traditions as compared to the rest of the nation.

Suggestions

Suggestions for future studies are as follows. As this study only examines regional training, attitudes, and practice of CAM among physicians, more national and multi-center studies are needed to assess to the greater population. In addition, the intrinsic problem of defining CAM therapies, especially mind-body and spiritual therapies, makes CAM modalities more difficult to measure objectively. Increased efforts to standardize the most utilized CAM therapies would result in more broadly used definitions of CAM and enable more accurate research results.

This study also supports the need for outcomes study and more education on CAM therapies, so that conventional physicians may incorporate CAM based on health benefits and clinical outcomes rather than regional popularity or cultural norms. In a recent study, Eisenberg et al (2002) found that out of the 831 respondents who had used a CAM therapy in 1997 and had seen a medical doctor, 63% to 72% did not disclose at least one type of CAM therapy to the medical doctor. Among 507 respondents who reported their reasons for nondisclosure of use of 726 alternative therapies, the most common reasons for nondisclosure were "It wasn't important for the doctor to know" or "The doctor never asked." Fewer respondents thought their doctor would disapprove of or discourage CAM use.[9] In light of the increasing consumer demand for CAM therapies coupled with consumer nondisclosure to their physicians, it is important that physicians demonstrate their knowledge of the safety and efficacy of CAM therapies. Thus, patients will be more comfortable and more apt to tell physicians about usage.

While most physicians who responded did not have CAM training, physician respondents were not opposed to receiving more training or education in CAM therapies (87%). Respondents were most interested in acupuncture or herb/nutraceutical training. Respondents commented that Continuing Medical Education or professional conferences would be the most effective educational tools (29%). For instance, further educating physicians on acupuncture and massage for the treatment of pain, which was proven to be effective but yet respondents had little knowledge in them. Also, further educating physicians on musculoskeletal conditions and hypnosis for smoking cessation. Likewise, training physicians on therapies may encourage future practice of CAM, since the state recognizes naturopathy licensure, while physicians reported little knowledge about naturopathy and ranked it negatively in attitude and practice patterns.

As we look toward the future of CAM research and education, Hawaii can emerge as the center based on its geographic and cultural richness. Hawaii is in a prime position to spark global collaborations among leaders in CAM research, including Britain, Germany, China,

and Japan, and to host international symposiums to address integrative health and methods of standardization. Hawaii can therefore build upon this existing foundation from our neighbors in Asia and Europe. Approximately two years ago, the NIH recognized Hawaii as one of two states that have the least government research funding, and in November two years ago, the NIH visited Hawaii to encourage grant applications. On the most basic level, educating physicians about CAM is necessary so that patients may feel comfortable in telling physicians about CAM usage. Ultimately this education will allow physicians to properly refer patients to the appropriate resources and practitioners.

Table 3.— Mean scores in in physicians' attitude toward the use of CAM therapies

Strongly opposed	M	Would not refer/use	M	Would refer/ use	M	Would use	M	Have used	M
Homeopathy	13.3	Ayurveda	49.0	Acupuncture	48.3	Massage	12.3	Prayer/ Spirituality	10.0
E/M Therapy	11.7	Native American	48.3	Massage	42.3	Acupuncture	10.7	Meditation	9.7
Naturopathy	10.7	Homeopathy	42.7	Chiropractic	38.3	Meditation	9.3	Herbal Medicine	9.7
Therapeutic	10.3	Naturopathy	42.7	Hypnosis	36.3	Prayer/ Spirituality	8.7	Massage	9.3
Reiki	8.3	HI/Polynesian	40.3	Acupressure	34.0	Hypnosis	7.7	Special diet therapies	8.0
Nutriceuticals	7.0	TCM	40.3	Prayer/ Spirituality	33.3	Dance/Mu/Art Therapy	7.7	Guided Imagery	7.3
Qi Gong	5.7	E/M Therapy	39.7	Meditation	32.3	Herbal Medicine	7.3	Hypnosis	7.0
Guided Imagery	5.3	Reiki	38.7	Dance/Mu/Art Therapy	31.7	Acupressure	7.3	Acupuncture	7.0
Special diet	4.7	Nutriceuticals	38.0	TCM	30.7	Special diet therapies	7.0	Nutriceuticals	5.3
Chiropractic	4.0	Qi Gong	37.7	Special diet therapies	26.0	Guided Imagery	6.0	Chiropractic	5.3
Prayer/ Spirituality	3.7	Herbal Medicine	34.0	HI/Polynesian	25.7	Chiropractic	6.0	Acupressure	5.3
Hypnosis	3.0	Guided Imagery	33.0	Herbal Medicine	24.0	E/M Therapy	4.7	Therapeutic	5.0
Dance/Mu/Art Therapy	2.7	Therapeutic	31.3	Therapeutic	22.7	HI/Polynesian	4.0	TCM	3.3
Herbal Medicine	2.7	Dance/Mu/Art Therapy	28.7	Guided Imagery	20.3	Therapeutic	4.0	HI/Polynesian	2.7
Acupressure	2.7	Special diet therapies	28.7	Qi Gong	16.7	Nutriceuticals	3.0	Dance/Mu/Art Therapy	2.7
Ayurveda	2.3	Acupressure	25.7	E/M Therapy	15.3	Reiki	2.7	E/M Therapy	2.7
Native American	2.3	Chiropractic	25.0	Native American	14.0	TCM	2.3	Naturopathy	1.7
HI/Polynesian	2.0	Prayer/ Spirituality	23.7	Naturopathy	14.0	Qi Gong	2.0	Ayurveda	1.3
Meditation	2.0	Meditation	23.3	Nutriceuticals	13.7	Native American	1.7	Homeopathy	1.3
Massage	1.7	Hypnosis	21.3	Ayurveda	13.3	Ayurveda	1.0	Qi Gong	1.3
TCM	1.7	Acupuncture	18.7	Homeopathy	13.3	Homeopathy	0.7	Reiki	1.3
Acupuncture	1.0	Massage	17.7	Reiki	13.0	Naturopathy	0.3	Native American	0.7

Acknowledgements

We deeply appreciate the help of Kathleen Baker from the State Department of Health, for lending her time and statistical expertise. Also, we would like to express many thanks to the physicians who supported this project by endorsing the survey, especially Dr. Jack Zhou for his input into this study, and Dr. Chen-Yen Wang for her many suggestions. Last but not least, a big thank you to Mrs. Yu-Shen Chan for funding the research.

References

1. Berman BM, Singh BB, Hartnoll SM, Singh BK, Reilly D. Primary care physicians and complementary-alternative medicine: training attitudes, and practice patterns. JABFP 1998. 11:272-281.
2. Astin J et al. A Review of the Incorporation of Complementary and Alternative Medicine by Mainstream Physicians. Arch Intern Med 1998; 158: 2303-2310.
3. Berman BM, Singh BB, Hartnoll SM, Singh BK, Reilly D. Primary care physicians and complementary-alternative medicine: training attitudes, and practice patterns. JABFP 1998. 11:272-281.
4. Diehl DL, Kaplan G, Coulter I, Glik D, Hurwitz EL. Use of acupuncture by American physicians. J Altern Complement Med 1997;3:119-126.
5. Goldszmidt M, Levitt C, Duarte-Franco E, Kaczorowski J. Complementary health services: a survey of general practitioners' views. Can Med Assoc 1995;153:20-35.
6. NCCAM (National Center for Complementary and Alternative Medicine). Expanding horizons on healthcare: Five-year strategic plan 2001-2005. 2000.
7. Astin J, Marie A, Pelletier K, Hansen E, Haskell W. A Review of the Incorporation of Complementary and Alternative Medicine by Mainstream Physicians. Arch Intern Med 1998; 158:2303–2310.
8. Judd MLKM. La'au lapa'au: herbal healing among contemporary Hawaiian healther. Pacific Health Dialog 1998; 5: 239-245.
9. Eisenberg DM, Kessler RC, Van Rompay MI, Kaptchuk TJ, Wilkey SA, Appel S, Davis RB. Perceptions about complementary therapies relative to conventional therapies among adults who use both: results from a national survey. Ann Intern Med 2001; 135:344-51.