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Physicians' attitudes toward complementary and alternative medicine and their knowledge of specific therapies: 8-Year follow-up at an academic medical center

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A B S T R A C T

The purpose of this study was to determine changes in attitude toward complementary and alternative medicine (CAM) therapies and knowledge of specific CAM therapies among internists at our institution. We compared the results of a survey given in 2004 and 2012. During this time period, the attitudes of physicians in our department of medicine toward CAM became much more positive, and physicians showed an increased willingness to use CAM to address patient care needs. However, knowledge of and experience with many specific CAM treatments did not change. These results will be used to develop further educational interventions and research studies.

1. Introduction

Complementary and alternative medicine (CAM) is a growing component of most health care systems, driven largely by patient interest in both health promotion and symptom management. The National Center for Complementary and Alternative Medicine's definition of CAM is "a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine" [1]. Because CAM therapies can offer both risks and benefits, it is imperative that physicians of all specialties have a basic knowledge of these therapies so they are able to advise and guide their patients. In preparation for establishment of a CAM Program at our institution [2], in 2004, our group developed a survey to assess physicians' attitudes toward CAM and their knowledge of specific CAM therapies, the results of which have been published previously [3]. During the 8 years since that survey, CAM has grown exponentially, both at our institution and across the United States, which suggests that CAM will be a part of health care for much of the US population for the foreseeable future. We therefore chose to re-evaluate the current attitudes and knowledge base of practicing physicians at our academic center by using the same survey. Our goals were to assess changes in physician attitudes and to identify any persisting or novel education gaps. We believe that the results of this reassessment will be helpful in guiding leadership for providing practicing physicians with updated and targeted resources.

2. Methods

2.1. Physician survey

This study was approved by our institutional review board. A link to an anonymous, web-based survey was e-mailed to practicing staff internists in the Department of Medicine (general internists and subspecialists in cardiology, gastroenterology, pulmonology, endocrinology, nephrology, hematology, allergy, rheumatology, infectious diseases, hypertension, preventive and occupational care medicine, and critical care) at our institution, a large academic medical center, in October 2012. One e-mail reminder was sent at 2 weeks. The survey was the same as that used in 2004 [3], consisting of 53 questions, posed in a closed manner, addressing 3 areas of CAM therapy: i) utilization and outcomes (7 questions); ii) familiarity and experience (27 questions); and iii) attitudes toward CAM (19 questions).

2.2. Statistical analysis

For each survey question, we determined the percentages of each response from the total number of respondents, along with the 95% CI. The Pearson χ^2 test for discrepancy and Mantel–

Abbreviation: CAM, complementary and alternative medicine.

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Haenszel test for trends were used to compare the results between 2004 and 2012, as appropriate. The "no response" columns were ignored for all Mantel–Haenszel tests. All statistical analyses were performed using SAS version 9.3 software (SAS Institute Inc). *P* values less than .05 were considered statistically significant.

3. Results

3.1. Physician respondents

Of 645 physicians who were invited by e-mail to participate in the web-based survey, 188 (29%; 95% CI, 26%–33%) responded, compared with 233 (35%; 95% CI, 32%–39%) responders of 660 physicians in our 2004 survey ($P = .02$). Demographics of the participants of the 2 surveys are shown in Table 1. In both surveys, most respondents were men. Compared with the participants of the 2004 survey, respondents in the 2012 survey were older—72% (95% CI, 65%–78%) were aged 46 years or older in the 2012 survey compared with 56% (95% CI, 49%–63%) in the 2004 survey ($P < .001$)—and their practice included more general internal medicine than subspecialty practice (37% [95% CI, 30%–45%] in 2012 vs 25% [95% CI, 19%–31%] in 2004; $P < .001$). The median number of years in practice was similar for both groups (>20 years in practice: 24% [95% CI, 19%–31%] 2012 vs 28% [95% CI, 23%–35%] in 2004; $P = .41$).

3.2. Utilization and outcome

Physicians participating in the 2012 survey were more likely to refer patients to a CAM practitioner (71% [95% CI, 64%–77%]) than in 2004 (44% [95% CI, 38%–51%]) ($P < .001$) (Table 2). Whereas in 2004 75% (95% CI, 70%–81%) of physicians had never referred a patient to a CAM practitioner, this percentage had decreased to 31% (95% CI, 24%–38%) by 2012 ($P < .001$). In the 2004 survey, physicians 46 years or older were less likely to refer a patient to a CAM practitioner (33% [95% CI, 25%–41%]) than were physicians younger than 46 years (59% [95% CI, 49%–69%]) ($P < .001$). In contrast, the current survey found that physicians aged 46 years or older and younger than 46 years were equally likely to refer a patient to a CAM practitioner (70% [95% CI, 61%–77%] vs 74% [95% CI, 60%–85%]; $P = .59$). In both surveys, women were more likely to refer than men: 67% (95% CI, 52%–80%) vs 38% (95% CI, 31%–46%) in 2004 ($P < .001$), and 87% (95% CI, 75%–95%) vs 64% (95% CI, 55%–73%) in 2012 ($P = .003$). The percentage of patients with whom possible benefits of using CAM therapies was discussed was significantly higher in the 2012 survey than in the 2004 survey ($P = .006$), and more physicians initiated this discussion than in our previous survey (41% [95% CI, 34%–48%] in 2012 vs 26% [95% CI, 21%–33%] in 2004; $P = .01$). Most physicians in the 2012 survey (77% [95% CI, 70%–83%]) thought that the incorporation of CAM therapies would have a positive impact on patient satisfaction (vs 57% [95% CI, 50%–64%] in 2004; $P < .001$), and 60% (95% CI, 53%–67%) in 2012 believed that it would have a positive impact on attracting more patients (vs 48% [95% CI, 41%–54%] in 2004; $P < .001$).

3.3. Familiarity and experience with CAM

The questions regarding both physicians' understanding of proposed medicinal use of various CAM treatments and techniques and their comfort with counseling patients about them showed that only acupuncture was better understood in the 2012 than the 2004 survey (Table 3, Fig. 1). Thirty percent (95% CI, 23%–37%) of the 2012 physicians, compared with 21% (95% CI, 16%–26%) in 2004, felt comfortable counseling patients regarding acupuncture. Biofeedback was the best understood treatment modality in 2004—47% (95% CI, 40%–53%) of physicians reported feeling comfortable counseling patients in this modality—but the percentage decreased to 33% (95% CI, 26%–40%) in 2012. Chiropractic, megavitamin therapy, magnetic therapy, and the herbs garlic and *Ginkgo biloba* all were less well understood in 2012 than in 2004. Massage was the best-understood therapy in 2012, with 37% (95% CI, 30%–44%) of physicians reporting feeling comfortable counseling patients about it, vs 41% (95% CI, 34%–47%) in 2004. The least understood treatment modality in both surveys was energy healing: 5% (95% CI, 2%–8%) reported understanding in 2004, vs 3% (95% CI, 1%–6%) in 2012. The least understood herb was feverfew, with 5% (95% CI, 3%–10%) of physicians reporting understanding the medicinal use of this herb in 2004 and 5% (95% CI, 2%–8%) in 2012. In both surveys, St. John's wort was the herb most physicians were

Table 1
Demographics of physician respondents.

Category	Percentage of respondents		*P* value
	2004	2012	
Sex			.08[a]
Male	76	69	
Female	21	28	
No response	3	3	
Age, y			<.001[b]
25–35	9	6	
36–45	35	22	
46–55	38	37	
≥56	17	35	
No response	1	0	
Race			.14[a]
White	84	78	
Native American	1	0	
Black	1	2	
Pacific Islander	1	0	
Hispanic	2	3	
Indian	6	12	
Asian	4	3	
Other	1	2	
Specialty			<.001[a]
General internal medicine	25	37	
Cardiovascular diseases	19	14	
Gastroenterology and hepatology	10	9	
Pulmonary and critical care medicine	8	8	
Endocrinology	7	8	
Preventive and occupational medicine	5	4	
Nephrology	4	2	
Hematology	4	6	
Infectious diseases	3	3	
Allergy	2	2	
Hypertension	2	2	
Rheumatology	2	4	
Other	4	0	
No response	5	1	
Time dedicated to patient care, %			.29[b]
0–25	9	5	
26–50	15	11	
51–80	28	38	
81–100	46	46	
No response	2	0	
Years in practice			.41[b]
1–5	10	6	
6–10	13	11	
11–15	15	13	
16–20	15	12	
21–25	14	7	
26–30	7	12	
≥31	7	5	
No response	19	34	

[a] Pearson χ^2 test.
[b] Mantel–Haenszel test.
Adapted from [3].