

Pediatricians' Recommendations for Complementary and Alternative Medical (CAM) Therapies

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Objectives.—Increasing numbers of children use complementary and alternative medicine (CAM). The purpose of this project was to assess pediatricians' attitudes and recommendations regarding CAM.

Methods.—This was a national survey sent to a random sample of active members of the American Academy of Pediatrics (AAP). The survey was 8 pages long and included questions on demographic and practice characteristics, attitudes about CAM, and 3 clinical vignettes asking what therapies physicians recommended in these situations.

Results.—The 745 eligible respondents were demographically similar to the national AAP membership. Most (87%) had been asked about CAM by a patient/parent in the 3 months prior to the survey and 34% said they or an immediate family member had used CAM in the past year. Most (66%) believed that CAM therapies could enhance recovery or relieve symptoms, but even more were concerned about possible side effects (75%) or that CAM use might delay mainstream care (74%). Only 20% routinely asked patients/parents about their use of herbs, and fewer asked about other CAM therapies. Fewer than 5% felt very knowledgeable about individual CAM therapies. For the clinical vignettes, pediatricians were far more likely to recommend medications than any CAM therapy. Over 80% of pediatricians desired additional information on CAM; the highest priorities were information about herbs, dietary supplements, nutritional therapies, and therapeutic exercise.

Conclusions.—Pediatricians recognize that many patients are interested in using CAM therapies, but do not feel comfortable discussing or recommending CAM therapies. Pediatricians are very interested in learning more about CAM.

KEY WORDS: complementary; doctor-patient communication; epidemiology; medical education; physician attitudes

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The use of complementary and alternative medicines (CAM) by children is not unusual, and may be particularly common among children suffering from chronic, recurrent, or incurable conditions; for example, roughly 20% of general clinical populations and over 50% of those with chronic illnesses report using CAM therapies.^{1–14} However, fewer than 50% of patients or families talk with their physicians about their use of CAM.¹⁵ Previous surveys have reported that 10% to 50% of physicians recommend or refer patients for CAM.^{16–20} However, no national studies have assessed pediatricians' attitudes or expectations about CAM, their comfort and practice of communicating with patients about CAM, how often they recommend CAM therapies compared with mainstream treatments for common conditions, or their desire for additional education about CAM. The purpose of this study was to explore these questions to generate hypotheses for future studies and to help guide curriculum development for practicing pediatricians.

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METHODS

The survey was the 49th Periodic Survey of Fellows of the American Academy of Pediatrics (AAP). Initiated in 1987, these surveys are conducted approximately 3 to 4 times yearly. Each one selects a unique national, random sample of US members of the AAP; for this survey, the sample was drawn from a list of 48 767 US nonretired members, including candidate Fellows and pediatric residents. Surveys were mailed in July 2001, and up to 5 reminders were sent to nonrespondents through November 2001. Of the 1607 pediatricians who were mailed surveys, 856 (53%) responded. Data were analyzed for the 745 respondents who provided direct patient care at the time of the survey.

The survey was developed by AAP staff and the Task Force on Complementary and Alternative Medicine, and was based on previous research including the AAP's Ambulatory Care Quality Improvement Program survey on CAM and a regional study on pediatricians' experience with and attitudes toward CAM.²¹ The initial survey was revised after 3 reviews by members of the AAP Task Force on Complementary and Alternative Medicine, and then underwent pilot testing in a sample of 100 randomly selected members of the AAP. The final survey was an 8-page questionnaire containing forced-choice questions covering personal and professional demographic characteristics, communication with patients regarding CAM therapies, and beliefs and attitudes about CAM. The survey also contained 3 brief vignettes: 1) 3-year-old with recurrent upper respiratory infections (URTI), 2) 15-year-

Table 1. Patient/Parent Inquires About Complementary and Alternative Therapies and Pediatricians' Desire for Additional Information or Education About CAM Therapies*

Therapy	Percentage of 612 Pediatricians Who Reported Patient Questions About CAM, 87% of Respondents, (% of 703 Respondents Who Answered This Question)	Percentage of 551 Pediatricians Reporting Desire for Additional Information, 83% of Respondents, (% of 661 Respondents Who Answered This Question)
Herbs, such as echinacea or St Johns wort	67 (58)	90 (75)
Dietary supplements, such as melatonin, fish oil, or megavitamins	63 (55)	90 (75)
Chiropractic	59 (51)	57 (48)
Nutrition and special diets such as vegetarian or macrobiotic	46 (40)	86 (72)
Homeopathy	36 (31)	59 (49)
Therapeutic exercise regimens such as yoga	34 (30)	81 (67)
Mind-body therapies such as hypnosis, biofeedback, or meditation	23 (20)	73 (61)
Massage or other kinds of bodywork	17 (15)	66 (55)
Acupuncture, acupressure, or shiatsu	14 (12)	70 (58)
Healing prayer or religious rituals	13 (11)	55 (46)
Magnets, crystals, ionizers, music, light, baths, and other environmental therapies	11 (10)	58 (48)
Therapeutic Touch or Reiki	6 (5)	59 (49)

*CAM indicates complementary and alternative medicine. Not all eligible pediatricians answered every question.

old with moderately severe asthma, and 3) 9-year-old with attention deficit hyperactivity disorder (ADHD). From a list of both mainstream and CAM therapies, pediatricians were asked to describe those they regularly, occasionally, or never would recommend in each of these situations.

Because this was a hypothesis-generating study, simple descriptive statistics were used to analyze the data. Chi-square analyses were used for bivariate comparisons, and a level of $P < .05$ was considered statistically significant. This study was approved by the Institutional Review Board of the AAP.

RESULTS

The characteristics of the respondents were similar to the known characteristics of the AAP membership, and are consistent with those of other recent periodic surveys.^{22,23} The eligible respondents had an average age of 42 years and 54% were female. About one-third practiced in the suburbs, 31% in an urban, noninner city area, 24% in an inner city area, and 10% were in rural areas. The majority of their patients were Caucasian (52%), African American (21%), or Hispanic (19%). Payment for care was estimated to be from private or public managed care plans (53%) or private or public fee-for-service insurance (37%); public insurance covered 34%, whereas private insurance covered 56%; military insurance accounted for 4%; and 6% lacked insurance.

In the 3 months prior to the survey, 612 (87%) pediatricians reported being asked by a patient (or parent) about one or more CAM therapies, and 551 (83%) desired additional information or education about CAM (Table 1). The most common patient queries (and the areas of greatest physician interest for future learning) concerned herbs such as echinacea or St Johns wort and dietary supplements such as melatonin, fish oil, or megavitamins. Fewer pediatricians reported being recently asked about hypno-

sis, biofeedback, meditation, massage, or acupuncture, yet most (>60%) pediatricians were interested in learning about these therapies as well as about herbs and supplements.

Pediatricians varied in reporting that they asked about patients' use of different therapies during routine history-taking. Nearly all (89%) ask more than 75% of their patients about the use of prescription and nonprescription medications, but substantially fewer reported regularly inquiring about herbs (20%), special diets (17%) or dietary supplements (17%). Fewer than 5% regularly asked patients about care from chiropractors, massage therapists, acupuncturists, or about the use of healing prayer, homeopathy, or mind-body therapies such as hypnosis, biofeedback, or meditation.

In the year prior to the survey, 34% of pediatricians reported that they or a member of their own immediate family had used one or more CAM therapies. The most commonly sought professional CAM therapy was massage or other kinds of bodywork (70% of CAM users), followed by chiropractic (21% of CAM users), spiritual or religious healing (14%), and acupuncture (13%).

Most pediatricians (73%) agreed that "It is the role of pediatricians to provide patients/families with information about all potential treatment options for the patient's condition" and 54% agreed that "Pediatricians should consider the use of all potential therapies, not just those of mainstream medicine, when treating patients" (Table 2). However, only 38% said that they felt comfortable discussing CAM with their patients. Pediatricians who had used CAM themselves were much more comfortable talking with patients about CAM (49% vs 33%), more confident in coordinating care involving nonmedical providers (42% vs 35%), more optimistic about CAM therapies' effectiveness (75% vs 62% at least occasionally effective), less concerned about CAM side effects (67% vs 80% at

Table 2. Pediatricians' Attitudes Toward CAM Therapies (N = 707 Pediatricians Responding With Complete Data)*

Statement	Percent		
	Agree	Neutral	Disagree
It is the role of pediatricians to provide patients/families with information about all potential treatment options for the patient's condition.	73	15	12
Pediatricians should consider the use of all potential therapies, not just those of mainstream medicine when treating patients.	54	26	21
Recommending or referring for therapies that are not part of standard medical care makes a physician susceptible to medical liability claims.	48	31	21
I am comfortable discussing complementary/alternative forms of therapies/treatments with patients/parents.	38	26	36
I am confident in my ability to manage/coordinate the care of patients who are also seeing nonmedical providers.	38	28	34
I would recommend a therapy for a chronic, life-threatening condition with no scientific evidence of its efficacy, if it is safe and serves to promote a patient's well-being.	37	31	32
I would recommend a therapy for an acute, self-limiting condition with no scientific evidence of its efficacy, if it is safe and serves to promote a patient's well-being.	33	36	32

*CAM indicates complementary and alternative medicine. Numbers may add to >100% due to rounding.

least occasionally), and less concerned that recommending nonmainstream therapies would increase the risk of medical liability claims (42% vs 52%) than were pediatricians who had not used CAM ($P < .05$ for all comparisons).

Most (66%) pediatricians felt that CAM therapies can enhance recovery or help relieve symptoms, but few agreed that CAM could decrease overall health care costs or reduce side effects of standard medications (Table 3). More than 70% were concerned about side effects or CAM causing delays in seeking appropriate care, and 46% were concerned that patients' use of CAM could interfere with doctor-patient communication.

In general, pediatricians did not feel very knowledgeable about CAM therapies. Fewer than 5% felt very knowledgeable about any CAM therapy. The majority was only slightly or somewhat familiar with widely used therapies such as dietary supplements (86%), herbal remedies (79%), therapeutic exercise (69%), chiropractic (69%), massage (66%), hypnosis and biofeedback (65%), or acupuncture (59%). Most (>50%) were totally unfamiliar with Therapeutic Touch or Reiki or environmental therapies such as magnets, crystals, music, color, or hydrotherapy.

For each of the 3 clinical scenarios, pediatricians were

far more likely to recommend medications than any CAM therapy (Table 4). For the 3-year-old child with recurrent URTI, 92% occasionally or usually recommended antihistamines or decongestants. Far fewer recommended environmental therapies such as vaporizers with eucalyptus or mint (31%), dietary supplements such as high-dose vitamin C or zinc (26%), or herbs such as echinacea (14%). Fewer than 15% of pediatricians recommended other CAM therapies such as massage, mind-body therapies, chiropractic, homeopathy, acupuncture, or therapeutic touch.

For the scenario of a 15-year-old with moderately severe asthma, over 90% of respondents recommended daily anti-inflammatory and beta-agonist medications. Fewer than 20% recommended dietary changes or mind-body therapies such as hypnosis or stress management. Over 90% never recommended herbs, dietary supplements, magnets, massage, acupuncture, chiropractic, or homeopathy for a case like this.

For the scenario of the 9-year-old boy with ADHD, the vast majority of pediatricians usually or occasionally recommended stimulant medications (97%), behavioral changes such as more structure and more one-to-one attention (86%), and a coordinated individual learning plan

Table 3. Pediatricians' Beliefs Regarding the Effects of CAM Therapies on Patients' Health*

Statement	Frequency (Percent)			
	Very Often/Often	Occasionally	Seldom/Never	Unsure
Use of CAM therapies . . .				
. . . Enhances recovery and symptom relief	16	50	24	10
. . . Decreases overall health care costs	3	15	56	26
. . . Reduces side effects of standard medications	2	16	57	25
. . . Risks additional side effects	28	47	13	13
. . . Causes delay in seeking standard medical care	23	51	21	5
. . . Interferes with standard medical care	12	44	38	6
. . . Impairs doctor-patient communication	10	36	49	5

*CAM indicates complementary and alternative medicine. Numbers may add to >100% due to rounding.

Table 4. Pediatrician-Recommended Therapies for Three Clinical Vignettes

Therapy	Percent		
	Usually	Occasionally	Never
3-year-old with recurrent URTI*			
Antihistamines/decongestants	43	49	8
Air filter, avoid tobacco smoke	72	21	7
Avoiding crowded settings	40	44	16
Allergy testing	8	75	17
Nutrition; chicken soup, avoid milk, etc	12	47	42
Eucalyptus or mint in bath or vaporizer	5	26	69
Dietary supplements, eg, vitamin C or zinc	2	23	74
Herbal remedies, eg, echinacea	<1	13	86
Massage, eg, back rub	<1	12	88
Acupuncture; chiropractic; homeopathy; mind-body; Reiki; Therapeutic Touch	All <1	All <8	All >92
15-year-old with moderately severe asthma			
Beta agonist medication	96	3	2
Daily anti-inflammatory, eg, cromolyn or steroids	93	5	2
Avoid allergens and tobacco	88	4	8
Exercise, eg, yoga or swimming	23	32	45
Mind-body, eg, hypnosis, relaxation	3	15	82
Nutrition, eg, more onions, fatty fish	2	8	90
Dietary supplements, eg, B6, magnesium, vitamin C	1	8	91
Acupuncture; herbs; homeopathy; magnets; massage; Reiki; Therapeutic Touch	All <3	All <9	All >90
9-year-old with ADHD*			
Stimulant medications eg, Ritalin	73	24	3
Structured environment, one to one attention	72	14	14
Educational learning plan, tutoring	69	17	15
Psychotherapy	17	40	43
Nutrition, eg, more caffeine	7	22	71
Exercise, eg, yoga	7	17	76
Mind-body, eg, hypnosis, biofeedback, distraction	5	17	79
Acupuncture; chiropractic; dietary supplements; herbal remedies; homeopathy; massage; Reiki; Therapeutic Touch	All <1	All <6	All >93

*URTIs indicates upper respiratory tract infections; ADHD, attention deficit hyperactivity disorder. Numbers may add to >100% due to rounding.

(85%). Exercise and mind-body therapies were recommended by only 22%–25%. Over 90% of pediatricians never recommended dietary supplements, herbs, massage, acupuncture, chiropractic, or homeopathy for this case.

DISCUSSION

As more patients use CAM, pediatricians are asked more questions about therapies that may not have been covered in medical school or residency training. This is the first national survey of pediatricians' attitudes about CAM therapies. Although pediatricians recognize their responsibility to discuss all relevant therapies with patients, and recognize patients' interest in many CAM therapies, most pediatricians do not feel comfortable discussing these therapies unless they've had personal experience using them. Most desire additional training in CAM therapies, particularly about herbs, dietary supplements, therapeutic diets, and exercise.

Although some pediatricians are optimistic that some CAM therapies may offer benefits, many pediatricians are concerned that CAM therapies may cause side effects, may delay use of mainstream treatment, and may pose liability risks.

Although adverse events associated with herbs have received a great deal of recent publicity,^{24,25} the relative toxicities and costs of using herbs, supplements, and other CAM therapies versus the risks of medications such as acetaminophen and ibuprofen^{26–28} have not been published. A fertile and valuable area of research is to explore the relative benefits and toxicities of CAM and mainstream therapies for common pediatric conditions. Additional research is also needed to better understand pediatricians' attitudes and practices in the face of scientific evidence regarding their recommendations about therapies with varying levels of evidence of effectiveness and safety. That is, the use of a variety of complementary therapies needs to be included within the broader fields of pediatric quality improvement and health services research.

Given pediatricians' lack of knowledge about CAM and lack of confidence in discussing CAM, it is not surprising that many fewer pediatricians ask about CAM therapies than about medications. Nor is it surprising that few pediatricians recommended any CAM therapies for common pediatric conditions such as recurrent upper respiratory conditions, asthma, or ADHD. However, it is clear from previous research that many parents whose children face

these kinds of conditions are using CAM on their own, for the most part it now appears, without discussing CAM with their pediatrician.^{13,15} Clearly, pediatricians would like additional training in these areas to better meet their patients' need for accurate, evidence-based information.

Like all studies, this one has several limitations. First, it was a survey of pediatricians and did not include family physicians, nurse practitioners, and others who provide health care for American children. Thus, we are unable to speculate on the attitudes and practices of the larger community of pediatric health care providers. Second, the survey was a self-report measure rather than a direct observation of pediatric practices. This means we do not know how often pediatricians really talk with their patients about CAM, but we suspect that the numbers here may somewhat overestimate desirable characteristics and practices such as knowledge, communication, and coordination of care. Although the survey's 53% response rate seems low, it is within the range of response rates to other physician surveys²⁹; furthermore, although the potential for response bias is obvious, in actuality studies of non-response bias among relatively homogenous professional groups (including an analysis of 50 recent AAP surveys) show such bias to be minimal.^{30,31} The survey was administered at one point in time, and there have been rapid changes in patient and physician attitudes about CAM over the previous 10 years; it is likely that things have changed somewhat between 2001 and the time this report is published. The scope of the survey was limited and did not include questions about the pediatricians' attitudes or knowledge about licensing, reimbursement, or time of CAM visits or the extent to which CAM services are available in individual communities. We described only 3 outpatient scenarios. Attitudes and behaviors might have differed if we'd asked about other conditions such as autism, cerebral palsy, or brain tumors. Finally, the survey was not intended to and did not answer questions about the actual effectiveness or safety of any CAM therapy for children or adolescents.

Despite these limitations, this study adds important information about our understanding of pediatricians' attitudes about CAM. Pediatricians are cautious and skeptical, yet desirous of additional education about CAM therapies. Professional education about CAM therapies, particularly about herbs, dietary supplements, and nutritional therapies, is urgently needed in pediatrics. Additional research to determine the effectiveness of CAM therapies for children, and their relative toxicities and costs compared with mainstream therapies, are also high priorities.³² Children and families already use CAM therapies. Pediatric education and research need to do a great deal of work to catch up to families' needs for unbiased, trustworthy, evidence-based information.

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