Integrative Pediatric Care: Parents’ Attitudes Toward Communication of Physicians and CAM Practitioners

WHAT’S KNOWN ON THIS SUBJECT: The use of complementary and alternative medicine (CAM) among children is prevalent in different countries. There have been limited data on parents’ perspectives toward pediatric CAM use and its meaning in terms of parent-doctor and doctor—CAM-practitioner communication.

WHAT THIS STUDY ADDS: The study revealed that parents referred to conventional and CAM clinics expressed distinctive attitudes toward CAM integration in pediatric care and perceived physician—CAM-practitioner communication as highly important in promoting their children’s health and safety.

abstract

OBJECTIVE: In this study, we explored parents’ perspectives toward complementary and alternative medicine (CAM) use by their children and its impact on parent-doctor and doctor—CAM-practitioner communication.

PATIENTS AND METHODS: We designed a 2-arm study of parents who approached either conventional primary care or CAM clinics with their children to consult physicians or practitioners regarding their child’s health.

RESULTS: A total of 599 parents responded to our questionnaire (319 in 5 conventional clinics [83.9% response rate] and 280 in 21 CAM clinics [71.2% response rate]). Parents in conventional clinics reported less use of CAM by their children within the previous year (35.3% vs 73.7%; P < .0001) but used more traditional and homemade remedies (46.4% vs 12.7%; P < .0001). Both parent groups largely supported informing their child’s physician regarding CAM use and expected the physician to initiate a CAM—related conversation and to refer their child to a CAM practitioner. The 2 groups’ respondents largely supported communication between the child’s physician and the CAM practitioner by the use of a referral/medical letter. Compared with respondents in CAM clinics, parents in conventional clinics were more supportive of CAM integration in a pediatric primary care setting and envisioned a more dominant role of physicians regarding CAM referral and a significant role of physicians in providing CAM.

CONCLUSIONS: Parents who are referred to conventional and CAM clinics express distinctive attitudes toward CAM integration in pediatric care. Parents perceive physician—CAM practitioner communication as highly important and instrumental in promoting their children’s health and safety. Pediatrics 2011;127:e84–e95

AUTHORS: Eran Ben-Arye, MD,a,b Zina Traube, MPH,c Leora Schachter, MD,d Motti Haimi, MD,e Moti Levy, MD,f Elad Schiff, MD,g,h and Efraim Lev, PhD,i,j

aComplementary and Traditional Medicine Unit, Department of Family Medicine, Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel; bClalit Health Services, Haifa and Western Galilee District, Haifa, Israel; cSchool of Public Health and Department of Eretz Israel Studies, University of Haifa, Haifa, Israel; dSchool of Health Services Management, Children’s Health Center, Armon Tower, Clalit Health Services, Haifa, Israel; eChildren’s Health Center, Armon Tower, Clalit Health Services, Haifa, Israel; fClalit Mashlima, Complementary Clalit Health Services, Haifa, Israel; gDepartment of Internal Medicine, Bnai-Zion Hospital, Haifa, Israel; and hDepartment of Complementary/Integrative Medicine, Law, and Ethics, International Center for Health, Law and Ethics, Haifa University, Haifa, Israel

KEY WORDS
primary care, complementary medicine, doctor-patient communication, pediatric care, integrative medicine

ABBREVIATIONS
CAM—complementary and alternative medicine
HMO—health maintenance organization

www.pediatrics.org/cgi/doi/10.1542/peds.2010-1286
doi:10.1542/peds.2010-1286
Accepted for publication Oct 8, 2010

Address correspondence to Eran Ben-Arye, MD, Clalit Health Services, 6 Hashahaf St, Haifa 35013, Israel. E-mail: eranben@netvision.net.il

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275). Copyright © 2011 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.
The use of complementary and alternative medicine (CAM) among children is prevalent in different countries and may have substantial impact on children’s health care. On the basis of data presented in a 2007 National Health Interview Survey, Birdee et al estimated that the incidence of CAM use in 2007 (excluding vitamins) by children younger than age 18 years was 8.7 million. The authors reported that CAM users in the US were more likely than non-CAM users to be adolescents rather than infants or toddlers, to have a parent who uses CAM and/or a parent with a college education, and to use prescription medication and less likely to live in the southern US states.

In the United Kingdom, Crawford et al conducted a cross-sectional survey of CAM use by children and adolescents attending the University Hospital of Wales and reported that 41% of the respondents had used at least 1 type of CAM in the past year. High prevalence of CAM use also is reported among children with chronic diseases (eg, functional and organic gastrointestinal diseases), those with unvaccinated or partially vaccinated status, and those with life-threatening diseases (eg, cancer). Typical CAM modalities used in the pediatric population include herbs, vitamins, and homeopathic and nutritional supplements, but these modalities significantly varied by the child’s age (eg, massage in infants, prayer or faith healing in adolescents), country of origin, and nature of disease (eg, biofeedback and guided imagery in pediatric pain management service).

Several studies examined the effect of pediatric CAM use on doctor-parent and doctor-child communication. In the United Kingdom, Fountain-Polley et al studied pediatric physicians’ exposure to CAM and reported that approximately half of all doctors had been asked about CAMs in a clinical encounter. Nondisclosure of CAM use is high and may exceed 50% of parents. Cincotta et al found that 66% percent of CAM users did not disclose CAM use to their doctor and that none of the inpatient medical records documented CAM use in the past month. Cincotta et al compared CAM use characteristics in 2 tertiary children’s hospitals in the United Kingdom and Australia and reported a higher than 60% nondisclosure of CAM use and very limited documentation of recent CAM use in inpatient notes. Sibinga et al surveyed a convenience sample of the caregivers who were accompanying children to the pediatrician and reported that 53% of parents expressed the desire to discuss CAM with their pediatrician; there was an increase to 81% among those who used CAM for their child. The American Academy of Pediatrics convened and empowered the Task Force on Complementary and Alternative Medicine to address issues related to the use of CAM by children and to develop resources to educate physicians, patients, and families. This task force concluded that the pediatrician can (with the patient’s and family’s permission) include the CAM provider in overall care-coordination activities and offer practical advice for doctor-patient communication with regard to CAM interest or use.

In Israel, CAM is provided in the pediatric context mainly by CAM services affiliated with each of the state’s 4 health maintenance organizations (HMOs). Although the cost of treatment is partially covered by the HMOs, the integration of CAM services within the HMOs is only partial, and the level of interaction between CAM and conventional practitioners is limited. In addition, CAM is provided to pediatric patients in private practices and by physicians with dual conventional and CAM training who offer integrative care in their clinics. The prevalence and characterization of these complementary and integrative practices is yet to be studied. In our study, we aimed to explore parents’ perspectives toward the use of CAM by their children and its meaning in terms of parent-doctor and doctor-CAM-practitioner communication. To study different perspectives of parents toward integration of CAM in conventional care, we approached parents in 2 clinical HMO settings in Israel: conventional primary care clinics and CAM clinics.

**PATIENTS AND METHODS**

**Study Sites and Participants**

We designed a 2-arm study of parents who approached 1 of the following clinical settings to consult practitioners regarding their child’s health:

- parents who consulted primary care physicians (pediatricians or family physicians) in conventional clinics; and
- parents who consulted CAM practitioners in CAM clinics.

The study was performed by using a convenience sample of parents who visited the clinics. Participation in the study was offered to parents who came to the clinics to receive medical services for their child’s health during 2007. Participants had to be older than 18 years who are parents to children younger than 18 years and medically insured by Clalit Health Services or Maccabi Health Services, which are the 2 largest HMOs in Israel, serving ~78% of Israel’s population.

Our study included 5 Clalit Health Services conventional primary care clinics and 21 CAM-specialized clinics (5
Clalit Health Services clinics, 15 Mac- cabi Health Services clinics, and 1 pri- vate clinic (Meditaf). CAM-specialized clinics are operated by the CAM ser- vices of Clalit Health Services and Mac- cabi Health Services. Funding of clinical care within these CAM services is partially covered by the HMO. In the CAM-specialized clinics, initial clinical intake is provided by medical doctors who determine referrals to medical doctors or non–medical doctor CAM practitioners who offer a variety of CAM modalities (homeopathy, acupuncture, manual practices, natura- pathy, etc). Before initiation, the study was reviewed and approved by 2 Decla- ration of Helsinki committees (local institutional review boards).

**Study Design**

A questionnaire was developed by the authors after a comprehensive litera- ture review, the goal of which was to assess prevalence of CAM use, reasons for its use, and parent–physician–CAM-practitioner communi- cation aspects. Thereafter, we used 3 focus groups of parents to refine the questionnaires and improve their comprehensibility. One focus group was composed of parents attending a pri- mary care conventional clinic and the 2 other focus groups were composed of parents attending CAM clinics. The focus-group participants varied by gender, age, education, health status, and CAM use. On the basis of the focus groups’ feedback, we developed a new version of the questionnaire, which was sent for reappraisal to a group of 5 pediatricians, 5 family physicians, and 5 CAM practitioners. After their comments, the questionnaire was re- fined accordingly. The authors decided to use a broad and understandable definition of CAM: “Therapies often named alternative, complementary, natural, or folk/traditional medicine, which are not usually offered as part of the medical treatment in the clinic.”

Added to this definition was a list of CAM modalities (see Appendix 1). Home remedies were specifically referred to as part of the traditional/folk treatments. The final version of the questionnaires consisted of 18 ques- tions about parent and child demo- graphics and 30 questions about parent attitudes toward CAM in pediatric care, which included 15 limited-choice questions (yes, no, other, or not rele- vant), 14 multiple-choice questions, and 1 question that used a Likert-like scale. In the questionnaire introduc- tion, participants were asked to relate their answers to the child whom they had brought to the clinic for medical treatment.

Twelve research assistants were trained to deliver the questionnaire in a 3-hour course that focused on com- munication issues with parents and health providers in the clinics. The re- search assistants had previous CAM knowledge and were instructed to present CAM to interviewees as defined in the questionnaire, avoiding the in- clusion of natural substances used in a nonmedical context. Parents were given the option of filling out the ques- tionnaire themselves or having the questions read to them with the re- search assistant recording the an- swers. Survey data were entered into a computer database for additional analysis.

**Data Analysis**

Data were evaluated by using SPSS 15 (SPSS Inc, Chicago, IL). Pearson’s \( \chi^2 \) and Fisher’s exact tests were used to detect differences in the prevalence of categorical variables and demo- graphic data between the participants in the 2 groups (parents in conven- tional and CAM-specialized clinics). Also, a \( t \) test was performed to determine any differences in the continuous variables between the 2 groups when normality was assumed. In cases of a nonnormality distribution the Mann- Whitney \( U \) test was used. \( P \) values of <.05 were regarded as significant.

**RESULTS**

**Parent-Child Demographic Information**

Of 380 eligible subjects in primary care conventional clinics, 61 declined the offer to participate (response rate: 83.9%); thus, data for statistical analysis were obtained from 319 respondents. Of 393 eligible subjects in CAM-specialized clinics, 113 declined participation (response rate 71.2%); thus, data for statistical analysis were obtained from 280 respondents. Pa- rental respondents’ demographic characteristics are shown in Table 1. Children’s demographics in Table 1 relate to the child whom the parent brought to the clinic for medical treatment. Respondents in the 2 groups were equally distributed by gender, residence (urban versus rural), and number of children in the family. Com- pared with parents referring to con- ventional primary care clinics, parents in CAM clinics were older, fewer were born in Israeli, more were of the Jew- ish religion, and there was a greater extent of household and self-used CAM over the previous year. Children in the 2 groups were equally distributed accord- ing to gender and country of birth and had a similar prevalence of chronic illness and history of previous hospitalizations. Children in CAM- specialized clinics were older and had been referred less to emergency care according to their parents’ report.

**Reported CAM Use**

Parents in CAM clinics reported higher CAM use by their child during the pre- vious year compared with children of parents referring to conventional pri- mary care clinics (73.7% vs 35.3%; \( P < .01 \)) (Table 2). Parents in CAM clinics also reported higher self-CAM use dur-
ing the previous year (54.7% vs 30.7%; P < .01). Children in CAM clinics used significantly more traditional Chinese medicine (43.4% vs 10.7%; P < .0001), homeopathy (42.4% vs 20.5%; P < .01), and movement/manual-healing therapies (31.7% vs 16.1%; P < .01). Children in conventional clinics used significantly more traditional and homemade remedies (46.4% vs 12.7%; P < .01).

### Doctor-Parent Communication Regarding Children’s CAM Use

Compared with parents interviewed in conventional clinics, parents in CAM clinics reported a higher rate of disclosure of CAM use to their physician (159 of 260 [61.2%] children in CAM clinics versus 50 of 258 [19.4%] children in conventional clinics; P < .01). Parents in both clinical settings reported that in most cases they were the ones to initiate the conversation with the child’s physician regarding CAM. Nevertheless, parents in CAM clinics reported more on their role as initiators of the CAM-related conversation with the physician (90% vs 75.5%; P = .012).

When asked if physicians had referred their child to CAM, parents in CAM-specialized clinics reported...
TABLE 2 Comparison of Parents’ Perspectives in Conventional Versus CAM-Specialized Clinics Towards CAM Use, Disclosure, Referral, and Physicians’ Attitudes Toward CAM

<table>
<thead>
<tr>
<th></th>
<th>Conventional Clinics (N = 319)</th>
<th>CAM Clinics (N = 280)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of pediatric CAM use during the previous year, %</td>
<td>35.3</td>
<td>73.7</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Prevalence of parental CAM use during the previous year, %</td>
<td>30.7</td>
<td>54.7</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Rate of CAM disclosure to physician, %</td>
<td>19.4</td>
<td>61.2</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Rate of parents supporting need to disclose CAM use to physician, %</td>
<td>92.8</td>
<td>84.7</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Rate of physicians’ referral to CAM, %</td>
<td>4.2</td>
<td>22.9</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Rate of parents expecting their child’s physician to generate referral to CAM, %</td>
<td>87.2</td>
<td>72.1</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Extent to which the child’s physician’s attitude towards CAM influenced the parent in choosing him or her as the child’s doctor, median (mean ± SD), 5-point scale</td>
<td>3 (2.83 ± 1.47)</td>
<td>2 (2.37 ±1.32)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Rate of parents expecting to receive CAM as part of their child’s care in the primary care clinic, %</td>
<td>67.4</td>
<td>35.8</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

higher rates of referral (54 of 236 [2.9%] vs 9 of 213 [4.2%]; P < .01).

Disclosure of Pediatric CAM Use and Its Ramifications

Parents in both groups largely supported informing their child’s physician of CAM use, although parents in conventional clinics supported disclosure more than parents in CAM clinics (92.8% vs 84.7%; P < .01). Similar attitudes were reported by parents in the 2 groups regarding informing the child’s physician of herbal treatment (conventional clinics 90.9% vs CAM clinics 82.5%; P < .01).

Parent Attitudes Regarding Their Child’s Physician’s Views of CAM

Respondents were asked to state their main expectation from the child’s physician concerning CAM. The main expectation supported by parents in both settings (conventional clinics 34.7% versus CAM clinics 42.4%; P = .1) was that the physician should refer their child to a CAM practitioner when it was appropriate and safe to do so. Other expectations, supported primarily by parents in conventional clinics, were that physicians initiate by asking the parent whether he or she is interested in CAM treatment for their child (23.3% vs 15.6%, P = .036) and that physicians be able to offer CAM treatments themselves, in the clinic, after receiving appropriate training (9.7% vs 3%, P < .01).

Parents were asked to grade on a 5-point scale to what extent their child’s physician’s attitude toward CAM influenced them in choosing him/her as the child’s doctor. Compared with parents in CAM clinics, parents in conventional clinics attribute more importance to the physician’s attitude toward CAM (median: 3 in conventional clinics versus 2 in CAM clinics; mean ± SD: 2.83 ± 1.47 vs 2.37 ± 1.32; P < .01).

Parent Attitudes Regarding Doctor–CAM-Practitioner Communication

Respondents in the 2 groups were highly supportive of communication between the child’s physician and the CAM practitioner (95.2–97.4%). About half of the respondents in both groups (48.6–50.7%) stated that the child’s physician should be the 1 to initiate communication with the CAM practitioners, rather than vice versa or the parent approaching the CAM practitioner. Referral/medical letters were viewed as the most appropriate means of communication (conventional clinics 37% versus CAM clinics 52%; P < .01).

Parents in both groups expressed the understanding that doctor–CAM-practitioner medical correspondence may have an influence on the child’s treatment (conventional clinics 89.6% versus CAM clinics 88.2%; P = .76). Parents in the 2 groups stated that doctor–CAM-practitioner communication influences 3 domains: treatment of the child’s disease (indicated by 97% of respondents in both groups); prevention of conventional–CAM treatment interaction (90% in both groups); and a change in the diagnosis of the child’s disease (87–89% of respondents). Parents in both groups supported collaborative doctor–CAM-practitioner teamwork (parents in conventional clinics 97.2% versus CAM clinics 89.2%; P < .01).

Parent Attitudes Toward CAM Integration in a Conventional Clinical Setting

Parents in both groups largely supported (>96%) the inclusion of CAM services in the Israeli health service and expressed their readiness to participate in covering payment for pediatric CAM services. Parents in the con-
ventional clinic group mostly expected to receive CAM as part of their child’s care in the primary care clinic (67.4% vs 35.8%, \( P < .01 \)), whereas parents interviewed in CAM clinics largely supported receiving CAM in specialized CAM centers (20.2% vs 41.0%, \( P < .01 \)). Participants were asked to consider a theoretical scenario of CAM integration within pediatric care in the primary care clinic where their child was receiving treatment. Participants in both groups expected their child’s physician to generate the referral to CAM (conventional clinics 87.2% and CAM clinics 72.1%, \( P < .01 \)). Parents in conventional clinics were less supportive of a direct self-referral approach (12.8% vs 27.9%; \( P < .01 \)). Parents in both groups mostly expected CAM treatment in such a theoretical scenario to be provided by either an physician or a non–medical doctor CAM practitioner. However, parents in conventional clinics, more than parents in CAM clinics, supported the option that their child’s physician would provide the CAM care (31.5% vs 13.3%, \( P < .01 \)).

**DISCUSSION**

This study focuses on parental attitudes toward pediatric CAM treatment and its ramifications on parent-doctor as well as doctor–CAM-practitioner communication. Although respondents in conventional and CAM clinics had different demographic characteristics, both groups reported high expectations from their child’s physician regarding various CAM-related aspects. These expectations reflect a gradient, beginning with the physician’s “passive” listening (eg, parent’s disclosure of CAM use) to a more active position (eg, physician inquiring about CAM and referring or even providing CAM). Parents grading referral to CAM as their main expectation are not content with “informing of” or “talking about” CAM but expect active involvement of physicians in their child’s health concerning CAM selection. In accordance with this finding, it is not surprising that parents in both groups reported that the child’s physician’s attitude toward CAM influenced them in choosing him/her as their child’s doctor.

Our study also presents 2 distinctive attitudes of patients in 2 clinical settings toward the way CAM should be integrated in pediatric care. Table 3 presents an integrative-like attitude of parents in conventional clinical setting compared with a more conventional-like approach of parents interviewed in CAM clinics. The integrative model of care, supported by parents in conventional clinics, is characterized by low to medium CAM use oriented more toward traditional homemade remedies. In this integrative care model, parents disclose more of their children’s CAM use and physicians tend less to refer to CAM, although when they do so, they often are the initiators of referral. Parents supporting this CAM integrative model envision its realization in primary care and support a dominant role of physicians regarding CAM referral and a significant role in providing CAM. In contrast, parents interviewed in CAM clinics envision a more complementary model of care that reflects the current situation in which CAM and conventional care are practiced in 2 distinctive settings with limited interaction and dialogue between physicians and CAM providers. Thus, parents in this group envision CAM integration in secondary, rather than primary, pediatric care and expect less from the child’s physician regarding CAM. Referral in this integrative scenario is not entirely physician dependent but combines an option of direct self-referral to CAM. Moreover, this complementary model of care grants a limited role to the child’s physician in providing CAM.

Although dissimilarities of parents in the 2 clinical settings exist, they unanimously support physician–CAM-practitioner communication concerning their child. Moreover, they indicate that doctor–CAM-practitioner communication can influence diagnosis and treatment as well as prevent conventional–CAM treatment interaction. This safety issue concerning the risks of CAM modalities, especially herbal remedies and nutritional supplements, and prevention of interactions with conventional drugs, is an issue of concern for pediatricians. Previous studies have shown that parents who choose CAM for their children have a preference for a “more natural” therapy or believe that these therapies are “natural” and thus “safe.” These natural equals safe perceptions were

**TABLE 3 Parents’ Perspectives of Complementary Versus Integrative Models of Care**

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Conventional Clinics: CAM Integrative Model</th>
<th>CAM-Specialized Clinics: CAM Complementary Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desired setting of CAM provision</td>
<td>Primary care clinics</td>
<td>Secondary care clinics</td>
</tr>
<tr>
<td>CAM disclosure</td>
<td>Parents expect physician’s openness to CAM use and support CAM disclosure</td>
<td>Parents less expect their child’s physician to ask them about CAM use</td>
</tr>
<tr>
<td>Source of CAM referral</td>
<td>Mainly referral by physicians</td>
<td>Referral by physicians and self-referral</td>
</tr>
<tr>
<td>Role of physicians in CAM providing</td>
<td>Significant</td>
<td>Minor</td>
</tr>
<tr>
<td>Main CAM modalities</td>
<td>Traditional homemade remedies</td>
<td>CAM modalities provided by practitioners</td>
</tr>
</tbody>
</table>

PEDIATRICS Volume 127, Number 1, January 2011
challenged in various case studies and trials reporting risks of CAM products such as the homeopathic preparation Gali-col Infant used for infantile colic or the heavy metal content of Ayurvedic herbal medicine products from India. In our study, we report that parents associate enhanced physician-CAM-practitioner communication with prevention of conventional-CAM treatment interaction. This attitude can be perceived as a middle-of-the-road, open-minded, yet somewhat skeptical approach standing between underestimated (natural equals safe) and overestimated risks of CAM.

This study has several limitations. In the questionnaire, we used CAM categories in a way that is culturally and contextually accepted in Israel. Consequently, we categorized some CAM therapies differently than the National Center for Complementary and Alternative Medicine at the National Institutes of Health. In addition, local cultural and organizational characteristics of CAM use may differ from those outside of Israel. Therefore, generalized implications for our findings should take these differences into account.

Although the generalizability of our results cannot be taken for granted, we believe that the United States and other Western countries face similar dilemmas with regard to aspects of CAM-related parent-doctor communication. The gradual transition of CAM use from an alternative and complementary context to a more integrated concept in pediatric care is becoming a pivotal theme because both health care providers and consumers acknowledge the need for effective communication in the triad of parents, physicians, and CAM practitioners. This increased awareness is echoing in the United States with the increasing use of CAM in the pediatric population and the understanding of the need to take a knowledgeable and active position in CAM decision-making.

Another potential limitation is that we did not select a representative sample of the various social, ethnic, and religious communities in Israel but decided to approach patients in clinics serving a variety of communities. To offset this potential bias, we made considerable efforts to minimize patient-selection bias by offering participation in the study, with no language restriction, to every patient who entered the clinic for any medical or administrative reason. Thus, our results may not represent the total population but rather the population of patients who actually came to the clinics. In addition, this study focuses on parents approaching either conventional or CAM clinics operated within HMOs, thus excluding private CAM clinics. Hence, the study results are limited to CAM clinics affiliated with HMOs and public medical services. Another limitation of our study that could be addressed in future studies is the lack of data on emergency-department referrals and hospitalization of children in the past year (as opposed to data assessed in our questionnaire regarding any past referral to the emergency department or hospitalization). These data can be complemented with information regarding the number of immunizations received and prescription and nonprescription medications used by the children, which are potential benchmarks for CAM use and perspectives of parents and children toward alternative versus complementary or integrative models of care. We also suggest, in future questionnaires, allowing more than 1 answer to enrich the data and insights gained from the survey.

**CONCLUSIONS**

Parents referring to conventional and CAM-specialized clinics, express high expectations from the child’s physician regarding CAM, beginning from disclosure of use, referral to CAM, communication with CAM practitioners, and CAM counseling and providing. Our study also shows that parents in conventional clinics, despite using CAM in moderation with their children, have a more integrative perspective regarding the physicians’ role in CAM care compared with parents that currently refer their child to CAM-specialized clinics. These parental perceptions illuminate the evolution of CAM from alternative (eg, CAM nondisclosure) to complementary (CAM referral) and integrative (CAM counseling in conventional clinic) models of care.

**ACKNOWLEDGMENTS**

The members of the research team from the International Center and College of Natural Complementary Medicine were Ms Yudit Halbani, Ms Niva Yemini, Ms Dina Gamin, Ms Anat Levi, Ms Shulamit Doron, Mr Lior Kalfon, Ms Inbar Mizrahi, Ms Rachel Iuster, Ms Sigal Salutsky, Ms Omer Wainer, Ms Bella Bernshtein, Mr Nadav Stoppelmann, and Ms Ronit Leibovitz.

We thank Ms Anat Klein, Director of the International Center and College of Natural Complementary Medicine for her support and encouragement; Ms Ronit Leiba for the statistical analysis; Ms Marianne Steinmetz for editing the manuscript; and Hamichlala Leminhal for support of the statistical workup. We also thank the following medical directors and staff members in the clinics for their support and collaboration with the team of researchers: Dr Hanan Babisky, Dr Michael Kaffman, and Dr Sharon Kama. And, we thank Ms Orit Lander for coordinating the research in complementary clinics and Prof Shai Linn for his mentoring and consultation.
REFERENCES

2. Crawford NW, Cincotta DR, Lim A, Powell CV. A cross-sectional survey of complementary and alternative medicine use by children and adolescents attending the University Hospital of Wales. BMC Complement Altern Med. 2006;6:16
3. Vlieger AM, Blink M, Tromp E, Benninga MA. Use of complementary and alternative medicine by pediatric patients with functional and organic gastrointestinal diseases: results from a multicenter survey. Pediatrics. 2008;122(2). Available at: www.pediatrics.org/cgi/content/full/122/2/e446
In the past year, did your child use or was he/she treated with one or more of the following treatments? 1. No 2. Yes

During the past year did you personally use or were you treated with one or more of the following treatments? 1. No 2. Yes If so, please tick √ the appropriate boxes:

<table>
<thead>
<tr>
<th>CAM treatments</th>
<th>My child underwent this treatment in the past year</th>
<th>I underwent this treatment in the past year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Herbs (medicinal herbs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Chinese medicine (acupuncture)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Homeopathy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Traditional/folk treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(“granny medicine”, popular healers, religious and spiritual healers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Food supplements for medicinal purposes at nature stores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Chiropractics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Touch and movement therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(massage, Alexander method, yoga, Feldenkraiz, reflexology etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Healing and energy (magnets, Reiki, Bicomb)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Meditation, relaxation, guided imagination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Naturopathy, aromatherapy, Bach remedy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Other, please elaborate:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Have you ever discussed CAM treatments for your child with your pediatrician/family doctor?

Please circle: 1. No  2. Yes  3. Irrelevant

If the answer is “yes”, who initiated the conversation?

A. Parent  B. Doctor  C. Other

Did your physician refer your child to CAM treatment?

1. No; 2. Yes; 3. Irrelevant

If the answer is “yes”, who initiated the referral?

A. Parent  B. Doctor  C. Other

If your child is undergoing CAM treatment, should your attending physician be informed of this?

1. No  2. Yes  3. Irrelevant

What are your expectations from your pediatrician/family doctor regarding administering CAM treatment to your child? (Please circle one answer)

A. To listen to me if I am interested that my child receives CAM treatment
B. The doctor should ask me and find out whether I am interested in having my child undergo CAM treatment
C. To refer me to an appropriate therapist efficiently and safely
D. To have updated information on CAM
E. To administer treatment himself, after appropriate training, in one of the CAM disciplines
F. I have no expectations
G. Other ____________

To what extent does your (attending) physician’s approach towards CAM influence your choice of him/her?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td>Very little</td>
<td>Moderate influence</td>
<td>Quite a lot</td>
</tr>
</tbody>
</table>

Do you think communication is required between the pediatrician/family doctor and the CAM practitioner?

Please circle: 1. No  2. Yes  3. Irrelevant

Who, in your opinion, should initiate communication between the pediatrician/family doctor and the CAM practitioner?

**What type of communication should the pediatrician/family doctor and the CAM practitioner have?**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Via referral/response letter</td>
<td>Via telephone conversation</td>
<td>Via e-mail</td>
<td>Oral report via the parent</td>
<td>Direct contact</td>
<td>Other, please specify:</td>
</tr>
</tbody>
</table>

**Do you believe that medical correspondence between the attending physician and the CAM practitioner might modify your child’s treatment?**

Please circle:  1. No  2. Yes  3. Irrelevant

**If you believe change is expected, please circle the extent of expected change:**

| Could communication between physician and CAM practitioner change the following aspects: | How much change is expected? |
|---|---|---|---|---|
|   | Much positive change | Slight positive change | No change expected | Slight negative change | Much negative change |
| 1. Child’s disease diagnosis | +2 | +1 | 0 | -1 | -2 |
| 2. Treatment of the child’s disease | +2 | +1 | 0 | -1 | -2 |
| 3. Prevention of a clash or interference between conventional and CAM treatment | +2 | +1 | 0 | -1 | -2 |
| 4. Other, please specify: | +2 | +1 | 0 | -1 | -2 |

**Do you believe that joint teamwork between physician and CAM practitioner is required?**

Please circle:  1. No  2. Yes  3. Irrelevant
Would you like CAM treatments to be offered in the "health basket"?

Please circle: 1. No 2. Yes

Would you agree to pay part of your child’s CAM treatments should they be offered at HMO clinics?

Please circle: 1. No 2. Yes

**If CAM treatment for children is included in the health basket, where do you think such treatments should be offered:** (Please circle one answer only)

1. At the community clinic at which the pediatrician/family practitioner works
2. At a CAM specialists' clinic in the HMO
3. (Independent) private clinic for CAM
4. Hospital ambulatory clinic
5. Nature shops
6. Other place ________________

If the clinic in which your pediatrician or family doctor works provides CAM treatment, who should REFER the patient for CAM treatments? (Please circle one reply)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrician or family doctor</td>
<td>Clinic nurse</td>
<td>Clinic secretary</td>
<td>Pharmacist</td>
<td>Direct self referral</td>
<td>Other, please specify:</td>
</tr>
</tbody>
</table>

**If the clinic in which your pediatrician or family doctor works provides CAM treatment, who should ADMINISTER the CAM treatments?** (Please circle one reply)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM practitioner</td>
<td>Physician trained in CAM</td>
<td>Regular attending physician (pediatrician/family doctor) trained in CAM</td>
<td>Nurse from the clinic who received CAM training</td>
<td>Pharmacist trained in CAM</td>
<td>Other, please specify:</td>
</tr>
</tbody>
</table>
Integrative Pediatric Care: Parents' Attitudes Toward Communication of Physicians and CAM Practitioners
Eran Ben-Arye, Zina Traube, Leora Schachter, Motti Haimi, Moti Levy, Elad Schiff and Efraim Lev

Pediatrics 2011;127:e84
DOI: 10.1542/peds.2010-1286 originally published online December 27, 2010;

Updated Information & Services including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/127/1/e84

References This article cites 17 articles, 3 of which you can access for free at:
http://pediatrics.aappublications.org/content/127/1/e84.full#ref-list-1

Subspecialty Collections This article, along with others on similar topics, appears in the following collection(s):
Complementary & Integrative Medicine
http://classic.pediatrics.aappublications.org/cgi/collection/complementary__integrative_medicine_sub

Permissions & Licensing Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
https://shop.aap.org/licensing-permissions/

Reprints Information about ordering reprints can be found online:
http://classic.pediatrics.aappublications.org/content/reprints

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since . Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2011 by the American Academy of Pediatrics. All rights reserved. Print ISSN: .
Integrative Pediatric Care: Parents' Attitudes Toward Communication of Physicians and CAM Practitioners
Eran Ben-Arye, Zina Traube, Leora Schachter, Motti Haimi, Moti Levy, Elad Schiff and Efraim Lev

*Pediatrics* 2011;127:e84
DOI: 10.1542/peds.2010-1286 originally published online December 27, 2010;

The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://pediatrics.aappublications.org/content/127/1/e84