

Use of Mind–Body Medical Therapies

Results of a National Survey

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OBJECT: Research demonstrating connections between the mind and body has increased interest in the potential of mind–body therapies. Our aim was to examine the use of mind–body therapies, using data available from a national survey.

DESIGN: Analysis of a large nationally representative dataset that comprehensively evaluated the use of mind–body therapies in the last year.

SETTING: United States households.

PATIENTS/PARTICIPANTS: A total of 2,055 American adults in 1997–1998.

INTERVENTIONS: Random national telephone survey.

MEASURES AND MAIN RESULTS: We obtained a 60% weighted overall response rate among eligible respondents. We found that 18.9% of adults had used at least 1 mind–body therapy in the last year, with 20.5% of these therapies involving visits to a mind–body professional. Meditation, imagery, and yoga were the most commonly used techniques. Factors independently and positively associated with the use of mind–body therapies in the last year were being 40 to 49 years old (adjusted odds ratio [AOR], 2.03; 95% confidence interval [CI], 1.33 to 3.10), being not married (AOR, 1.78; 95% CI, 1.34 to 2.36), having an educational level of college or greater (AOR, 2.21; 95% CI, 1.57 to 3.09), having used self-prayer for a medical concern (AOR, 2.53; 95% CI, 1.87 to 3.42), and having used another complementary medicine therapy in the last year (AOR, 3.77; 95% CI, 2.74 to 5.20). While used for the full array of medical conditions, they were used infrequently for chronic pain (used by 20% of those with chronic pain) and insomnia (used by 13% of those with insomnia), conditions for which consensus panels have concluded that mind–body therapies are effective. They were also used by less than 20% of those with heart disease, headaches, back or neck pain, and cancer, conditions for which there is strong research support. Mind–body therapies were generally used concomitantly with conventional care: 90% of those using a mind–body therapy in the last year had seen a physician and 80% of mind–body therapies used were discussed with a physician.

CONCLUSIONS: Although mind–body therapies were commonly used, much opportunity exists to increase use of mind–body therapies for indications with demonstrated efficacy.

KEY WORDS: evidence-based medicine; mind–body; self-care; utilization.

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Mind–body medicine encompasses a wide range of practices and therapies designed to facilitate the mind's capacity to affect health. Based on national survey data, relaxation techniques, guided imagery, hypnosis, and biofeedback are the most popular mind–body therapies in the United States.^{1,2} While use of many mind–body techniques predates modern biomedicine, they have received increased attention as biomedical research identifies mechanisms by which the mind and body influence each other.^{3,4} Because mind–body medicine often involves inexpensive self-care-based activities, it holds appeal as a cost-effective or cost-saving^{5–7} alternative in an age of spiraling medical expenditures.

Despite widespread popular interest in mind–body therapies and their potential as useful medical treatments, many questions about their use remain unanswered. For instance, while mind–body therapies are clearly efficacious in the treatment of chronic pain and insomnia,⁸ we do not know whether persons with these conditions routinely use these effective and inexpensive therapies. Conversely, we do not know whether persons are using mind–body therapies while not supervised by a physician for conditions that might best be treated with other, more effective, therapies. Answering these and other questions regarding the use of the increasingly popular mind–body medicine will help inform future clinical, research, and policy decisions. Our aim was to examine in detail the use of mind–body therapies, utilizing data available from a national survey.

METHODS

Survey Design and Response Rate

We conducted a nationally representative telephone survey between November 1997 and February 1998. We used random digit dialing with random selection of 1 English-speaking household resident aged 18 or older. We weighted the data to adjust for geographic variation in response rates, for variation in household size, and for the probability of selection. A subset of potential subjects who initially declined participation were offered a monetary incentive to participate. Sample weights were modified to

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account for this procedure. Finally, we used sociodemographic variables to readjust weights to ensure similarity between the sample and U.S. population demographic distributions.

We presented the interview as a survey conducted about the health care of Americans, with no mention of alternative or complementary therapies. Questions began with assessment of current health status, interactions with medical doctors, and personal experience over the last 12 months with common medical conditions. Respondents were also given the opportunity to report up to 3 medical conditions that had not been mentioned on the list. Use of conventional therapies in the last 12 months was assessed for up to 5 medical conditions for each respondent.

We then asked about the use of complementary therapies. Complementary therapies consisted of a core list of 16 modalities outlined in previous work¹ (relaxation techniques, herbal medicine, massage, chiropractic, megavitamins, self-help group, imagery, commercial diet, folk remedies, lifestyle diet, energy healing, homeopathy, hypnosis, biofeedback, spiritual healing by others, and acupuncture), as well as additional complementary therapies which are less easily defined and were used less frequently than those in the core list. Therapies specifically not included in the definition of complementary therapies for our analyses were self-prayer and exercise. We used the National Institutes of Health National Center for Complementary and Alternative Medicine's definition of mind-body therapies, namely: "interventions...designed to facilitate the mind's capacity to affect bodily function and symptoms."⁹ We specifically asked whether a respondent had used the following mind-body therapies: "relaxation techniques like meditation or the relaxation response," "imagery techniques like guided imagery," "biofeedback," "hypnosis," and "yoga." If respondents selected "relaxation therapy," they were asked which specific relaxation therapies they had used. The expanded list of relaxation therapies included "meditation," "stress management," "relaxation response," "autogenic training," "guided imagery," and "other." Respondents selecting "other" were asked to name which other relaxation therapies they had used. In addition, respondents were prompted to name up to 3 other alternative therapies that they had used. We did not include prayer as a mind-body therapy for the purposes of this analysis. For a random sample of up to 3 complementary therapies used by the respondent in the last 12 months, we asked in-depth questions including for which conditions they had used this modality, whether they had used the modality for wellness or preventive care rather than illness, and whether they had seen a professional for the complementary therapy. Respondents were asked to rate the perceived helpfulness of complementary and conventional therapies for each of their self-reported medical conditions. We previously published additional details of the sampling methods and interview.¹ The study methods were approved by the institutional review board at Beth Israel Deaconess Medical Center.

Analysis

We estimated the proportion of respondents who used specific types of mind-body therapies in the last year, the proportion of respondents with common medical conditions who had used mind-body therapies specifically for that condition in the last year, and the frequency with which respondents perceived mind-body therapies to be "very helpful" for each of the medical conditions. Estimates for the number of persons using mind-body therapies for medical conditions were made by extrapolation of our nationally representative weighted sample to 1997 U.S. population estimates.

We used logistic regression to identify factors associated with having used 1 or more mind-body therapies in the last year. Factors evaluated for significance in bivariable analyses included gender, quintile of age, race (white vs other), educational level (college or greater, some college, high school, or less), household income (>\$50K, \$20 to 49K, <\$20K), region of the country (Northeast, North Central, South, West), urbanicity, employment status (unemployed vs other), self-rated health status (very good or excellent vs good, fair, or poor), frequent use of conventional providers (upper quartile of visits made in last year vs other), marital status (married vs single), use of a complementary therapy other than a mind-body therapy in the last 12 months, use of prayer for a health concern in the last 12 months, and extent of disability (self-reported limitations with daily life due to a health condition in the last year vs no limitations). We used a backward elimination procedure to create the final model, restricting analysis to variables significant at $P \leq .2$ level in our bivariable analyses, and incorporating only variables with a Wald statistic of $P \leq .05$ in our final model. All analyses were performed using SUDAAN software (Research Triangle Institute, Research Triangle Park, NC) with appropriate weighting and nesting variables.

No authors have any conflicts of interest, either financial or personal. Authors had full access to all of the data in the study and accept full responsibility for the integrity of the data and the accuracy of the data analysis.

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RESULTS

Prevalence of Mind-Body Therapy Use

Overall, 2,055 respondents completed the survey, which represented a 60% weighted overall response rate

Table 1. Characteristics of Those Who Used Mind-Body Therapies* Compared to Those Who Did Not

Factor	Mind-Body Users, %	No Mind-Body Use, %	P Value
Gender			
Female	58	51	= .02
Age, y			< .0001
18 to 29	18	22	
30 to 39	29	24	
40 to 49	31	17	
50 to 64	17	20	
65+	5	17	
Education			< .0001
High school or less	34	54	
Some college	32	25	
College graduate or higher	34	21	
Annual Household Income, \$			> .2
<20,000	25	54	
20 to 50,000	48	50	
50,000+	28	25	
Marital Status			
Not married	64	52	< .001
Race			
White	75	77	> .2
Other complementary medicine use [†]	75	36	< .0001

* Mind-body therapies consisted of relaxation techniques, yoga, imagery techniques, hypnosis, biofeedback, and "other" techniques such as dance therapy.

† Complementary medical therapies (not categorized as mind-body) included herbal medicine, massage, chiropractic, megavitamins, self-help group, commercial diet, folk remedies, lifestyle diet, energy healing, homeopathy, spiritual healing by others, and acupuncture.

among eligible respondents. The sociodemographic characteristics of the survey sample were similar to the population distributions published by the U.S. Bureau of the Census. We have previously published details of the survey demographics compared to the U.S. Bureau of the Census data and general survey results.¹

Of those completing the survey, 593 (28.9% weighted) reported having ever used a mind-body therapy, while 397 (18.9% weighted) did so in the last 12 months. Table 1 shows the characteristics of those using 1 or more mind-body therapy in the last year compared to those who did not use any. Table 2 shows adjusted odds ratios for our multivariable logistic regression model detailing factors independently associated with use of 1 or more mind-body therapy in the last year. Factors independently associated with the use of mind-body therapies in the last year were age, marital status, level of education, use of prayer for a medical concern, and use of some form of complementary medicine other than mind-body therapies in the last year.

Table 3 shows mind-body therapies used by at least 1% of the population in the last year. Meditation was used most commonly, followed by guided imagery and yoga. In terms of the reasons for use of mind-body therapies, 18.7% (standard error [SE] 2.8%) of mind-body therapies were used solely to treat a specific medical condition, 29.6% (SE 3.0%) were used solely to promote wellness or prevent illness, 40.3% (SE 3.7%) were used to both treat a medical condition and to promote wellness, and 11.4% (SE 2.2%) were used for neither reason. Lifestyle use (use for neither

wellness/prevention nor for any medical problem) was 14% (SE 2.3%) for meditation, 10% (SE 2.5%) for guided imagery, and 1% (SE 0.7%) for yoga.

Mind-body therapies were used to treat a variety of medical conditions. Table 4 lists common medical conditions and the percentage of those reporting the condition that had used a mind-body therapy specifically to treat the condition in the last 12 months. Psychiatric disorders, such as anxiety and depression, were most likely to be treated with mind-body techniques. Fewer than 20% of those with chronic pain used mind-body techniques and 13% of those with insomnia used mind-body techniques for their condition. Table 4 also shows the percentage of users who found the mind-body therapy "very helpful" for the treatment of the medical condition of note. Mind-body therapies were perceived as "very helpful" for most conditions by 35% to 45% of users. The perceived helpfulness of mind-body therapies varied depending on whether the therapy had been used with or without a professional visit. Among mind-body therapies involving at least 1 visit to a mind-body provider in the last year, 53.0% (SE 11.1%) were perceived to be "very helpful" for medical conditions treated, while mind-body therapies used without any visits to a professional were rated as "very helpful" in 35.2% (SE 5.3%) of cases.

As a whole, mind-body modalities were used as self-care rather than as professional-based therapies: only 20.5% (SE 3.2%) of mind-body therapies used involved a visit to a professional in the last 12 months. Despite being

Table 2. Independent Characteristics Associated with Use of Mind-Body Therapies

Factors	Use Mind-Body Therapy Among Those with Characteristic, %	Adjusted Odds Ratio (95% CI)
Used other complementary therapy* in last year		
No complementary therapy use	8	1.0
Used complementary therapy	33	3.77 (2.74 to 5.20)
Used self-prayer for a health concern in last year		
No use of self-prayer	11	1.0
Used self-prayer	32	2.53 (1.87 to 3.42)
Education		
High school or less	12	1.0
Some college	23	1.57 (1.11 to 2.21)
College graduate or higher	28	2.21 (1.57 to 3.09)
Age, y		
18 to 29	16	1.0
30 to 39	22	1.43 (0.95 to 2.17)
40 to 49	29	2.03 (1.33 to 3.10)
50 to 64	17	0.98 (0.63 to 1.54)
65+	6	0.34 (0.19 to 0.62)
Marital Status		
Married	15	1.0
Not married	22	1.78 (1.34 to 2.36)

* Complementary medical therapies (not categorized as mind-body) included herbal medicine, massage, chiropractic, megavitamins, self-help group, commercial diet, folk remedies, lifestyle diet, energy healing, homeopathy, spiritual healing by others, and acupuncture. CI, confidence interval.

primarily a self-care activity, 88.9% (SE 4.5%) of persons using a mind-body therapy in the last year had also seen a medical doctor, with use of the specific mind-body therapy being disclosed to physicians in 80.1% (SE 3.3%) of cases. Furthermore, 83.9% (SE 3.3%) of people who had used a mind-body therapy for 1 of their 3 most bothersome medical conditions had also seen a medical doctor specifically to treat that same condition in the last year.

DISCUSSION

We found that mind-body therapies were commonly used by Americans: almost 1 in 5 adults reported using 1 or more mind-body therapies in the last year. Our multivariate regression indicates that users of mind-body therapies are more likely to be single, aged 40 to 49 years, have higher levels of education, have used some form of

Table 3. Use of Mind-Body Therapies in Last Year*

Mind-Body Therapy	Used in Last 12 Months, % (SE)	Visited Provider for Mind-Body Therapy in Last 12 Months, % (SE)
Meditation	7.0 (0.8)	14.7 (4.2)
Imagery techniques	4.8 (0.5)	20.9 (8.4)
Yoga	3.7 (0.5)	15.8 (6.2)
Hypnosis	1.4 (0.3)	52.5 (14.4)
Stress management	1.4 (0.3)	30.9 (12.2)
Breathing techniques (but not classified by respondent as either meditation or relaxation response)	1.2 (0.3)	12.6 (6.4)
Relaxation response	1.0 (0.3)	40.2 (14.9)
Biofeedback	1.0 (0.2)	46.9 (15.6)
Other [†]	5.4 (0.8)	16.3 (5.5)
≥1 Mind-body therapy	18.9 (1.0)	20.5 (3.2)

* Individual categories included for therapies utilized by at least 1% of the population.

[†] The largest modalities in the category of "other" were dance and music therapy (not simply listening to music), autogenic training, progressive muscle relaxation, and relaxation tapes of different varieties.

SE, standard error of mean.

Table 4. Persons Using Mind-Body Therapies for Common Conditions

Condition	Percent of Respondents Who Used Mind-Body Therapy for that Condition in Last Year Among All Those Reporting Condition, % (SE)	Found Mind-Body Therapies "Very Helpful" for Condition,* % (SE)	National Estimates of Persons Using Mind-Body for This Purpose (Millions) [†]
Anxiety	34.0 (4.8)	47.2 (9.4)	6.3
Depression	26.5 (4.7)	29.3 (9.1)	3.8
Other chronic pain	19.5 (5.3)	55.0 (14.7)	3.2
Headaches	18.5 (3.5)	40.7 (11.4)	2.8
Back or neck pain	18.0 (2.6)	40.3 (8.2)	11.2
Heart problems or chest pain	18.0 (4.8)	51.7 (15.2)	3.1
Arthritis	14.8 (3.2)	46.4 (11.9)	5.7
Insomnia	13.3 (3.5)	51.7 (13.7)	5.3
Digestive disorders	12.4 (2.6)	39.5 (10.7)	3.3
Fatigue	12.1 (3.1)	36.3 (12.0)	6.8
Female complaints	11.3 (4.7)	3.1 (3.3)	4.3
Cancer	10.1 (6.8)	—*	0.3
High blood pressure	8.1 (3.8)	23.7 (15.2)	2.8
Lung problems	7.9 (2.8)	48.5 (18.8)	2.2
Dermatologic conditions	5.7 (3.9)	—*	1.5
Allergies	5.7 (1.7)	54.0 (15.3)	3.4
Weight problem	5.3 (4.6)	—*	1.2
Diabetes mellitus	1.9 (1.4)	—*	0.2

* Helpfulness data included only for conditions for which at least 10 respondents provided data on the helpfulness of mind-body therapies for this condition.

[†] Based on disease prevalence data from our self-report survey data. SE, standard error of mean.

complementary and alternative medicine (CAM) other than mind-body therapies, and have used self-prayer for a medical condition in the last year. Our findings in this regard suggest that the population subset who use mind-body therapies is very similar to those who use other CAM therapies, particularly with respect to positive associations with higher education and being aged 40 to 49 years.¹ However, while most previous studies have found slightly higher use of CAM among women, we did not find this a significant association with use of mind-body therapies. Furthermore, we found that single persons were more likely to have used mind-body therapies than married persons; an association that has not been previously reported for the use of any other CAM therapies. Causative factors for this association might include a greater ability of single persons to participate in self-care practices because of fewer family responsibilities or the positive socialization aspects associated with some mind-body practices like going to a yoga class.

Mind-body therapies were used to treat the full spectrum of medical conditions, but were most often used for psychiatric conditions and chronically painful conditions. A National Institutes of Health consensus panel has concluded that "available data support the effectiveness of [behavioral and relaxation approaches] in relieving chronic pain and in achieving some reduction in insomnia."⁸ In addition, an extensive review of meta-analyses and recently published studies of mind-body therapies concluded that there is strong evidence for the efficacy of mind-body therapies for coronary artery disease, headaches, insomnia,

incontinence, chronic low back pain, disease and treatment-related symptoms of cancer, and improving postsurgical outcomes.¹⁰ Despite strong research support for these conditions, only 20% of those with chronic pain, 13% of those with insomnia, 18% of those with heart problems, 18% of those with headaches, 18% of those with back or neck pain, and 10% of those with cancer had used mind-body therapies for their condition in the last year. Addressing the low frequency of use of inexpensive mind-body therapies for these conditions has the potential for great dividends.⁵ Recent data by Corbin Winslow and Shapiro indicate that physician education may be a powerful target in this regard.¹¹ In their survey of 751 Denver area physicians, physicians indicated a strong interest in education about complementary therapies specifically to aid in appropriate recommendation of therapies that are safe and effective and dissuasion from those that are unsafe or ineffective. Future research should prospectively study the impact of physician education on appropriate referrals to mind-body professionals and examine for the presence of other barriers to use of mind-body therapies.

There is moderate support for the efficacy of mind-body therapies in hypertension and arthritis and many more areas in which there is promising but limited support, including asthma, tinnitus, diabetes, COPD, poststroke muscle reeducation, dermatological conditions, allergies, irritable bowel syndrome, peptic ulcer, infertility, rheumatoid arthritis, HIV disease, and anxiety.^{10,12-15} Until additional research is conducted, the appropriateness of mind-body

therapies as primary or adjunctive treatment for these conditions can only be determined on a case-by-case basis.

When discussing use of mind-body therapies for medical conditions not clearly supported by research, clinicians would do well to remember that patients may have strong personal feelings about the helpfulness of some complementary therapies. For example, Blendon et al. report national survey data wherein 66% of dietary supplement users would continue to use “the supplement they use most often if the FDA said it was ineffective.”¹⁶ If the same insensitivity to authorities’ assessments of efficacy holds true for mind-body therapies, clinicians would do best to avoid simple dismissals of mind-body therapies as unproven as this may only infrequently dissuade use. Instead, thoughtful discussion regarding the appropriate use of mind-body therapies, combined with ongoing clinical monitoring, is likely to bring superior results.¹⁷

Our data also indicate that use of mind-body therapies in the context of visits to mind-body professionals is associated with higher levels of perceived helpfulness than therapies used without professional guidance. Most importantly, this observation is supported by the fact that interventions utilized in the vast majority of clinical trials demonstrating efficacy of mind-body medical therapies have involved substantial personal contact with professionals trained in mind-body techniques.¹⁰ Therefore, until efficacy data on mind-body therapies conducted entirely as self-directed care are available, we must presume that the 80% of mind-body therapies currently being conducted in this manner may represent a less effective mode of care than those conducted under the supervision of mind-body professionals. As a result, clinicians should strongly consider referral to licensed providers with expertise in mind-body therapies when discussing use of mind-body therapies with their patients.

While mind-body therapies were often used to treat a medical condition (59% of cases), in 41% of cases they were used solely for other reasons. The first category of “non-medical use” is illustrated by the 11% of mind-body therapies used for neither wellness/prevention nor for medical conditions. We interpret that people used these therapies as part of a deeply ingrained lifestyle practice. The second category of “nonmedical use” is illustrated by the 30% of mind-body therapies used solely for wellness/prevention. We interpret that these people used the therapy as part of an “alternative lifestyle” with the stated goal of “preventing illness or maintaining health and vitality” (as our survey question was phrased). Given the high prevalence of mind-body therapy use for wellness/prevention (overall 69.9% of mind-body therapies were used at least partly for prevention/wellness), we suggest that future research more clearly identify peoples’ goals for wellness/prevention and how they perceive that mind-body therapies will help them reach these goals.

The issue of possible harm associated with the use of all complementary therapies has been high in the minds of consumers, physicians, and policy makers. While herbs

and supplements have received the most attention,¹⁸⁻²² with some clearly causing harm through direct toxicity²³ and drug/herb interactions,²⁴ inappropriate use of mind-body therapies may also result in direct harm. For instance, use of specific mind-body therapies by persons with unstable psychiatric conditions (such as posttraumatic stress disorder) may worsen psychiatric symptoms, especially if the patient does not have appropriate oversight.

In addition to the potential for direct harm, mind-body therapies may result in harm in at least 2 other ways. First, persistent guilt may result from using mind-body therapies and having less than hoped for results, thinking that if only one could have controlled one’s mind better, things would have worked out more favorably. Davidoff²⁵ has labeled this the “responsibility paradox” in alternative medicine, summarizing it as follows: “It is the patient’s failure...to eliminate negative thinking that is at fault when the disease gets worse. The paradox here is that alternative medicine, while sometimes empowering for patients (including many with life-threatening illness), is also the harsher discipline because it can so easily leave patients feeling at fault, guilty, and abandoned.” It is unknown to what extent patients suffer from these feelings as a result of using mind-body therapies to treat their medical conditions.

Another type of harm is indirect, caused by forgoing or delaying more effective treatments in favor of mind-body therapies.²⁶ This may happen when a patient has excessive expectations for the benefits of a mind-body therapy, choosing this route without ever consulting a physician or unwisely choosing mind-body therapy as the primary mechanism of treatment despite discussions with their caregiver. Our data regarding indirect harm are somewhat reassuring, documenting that circumstances ripe for indirect harm through use of mind-body therapies are uncommon. Specifically, almost 9 of 10 people who used mind-body therapies had seen a physician in the last year, more than 8 of 10 using a mind-body therapy for 1 of their 3 most bothersome medical conditions also saw a physician in the last year, specifically for the treatment of that condition, and use of 8 of 10 mind-body therapies were disclosed to a physician. Despite these reassuring figures, the high prevalence of mind-body therapy use leaves room for substantial amounts of indirect harm and/or guilt to arise. Continuing to inquire about the use of mind-body therapies with patients, promoting realistic expectations about the values of mind-body therapies, and referring to mind-body professionals where appropriate will do much to help clinicians diminish unnecessary harm from these otherwise benign and potentially empowering therapies.

Our study had several limitations. First, we did not include prayer as a mind-body therapy for the purposes of our analysis. While self-prayer is sometimes classified as a mind-body therapy, we made a conscious decision to exclude prayer from our analysis because: 1) its use is inextricably linked to religious concerns; 2) its extremely high prevalence of use (35% of Americans used self-prayer specifically for a medical condition in the last year) dominates

any therapy with which it is combined for analysis, and; 3) preliminary analysis demonstrated that self-prayer was used for different medical conditions and by a different sociodemographic population subset than the complementary and alternative mind-body therapies included for analysis in this paper. Therefore, we felt that self-prayer was better analyzed and discussed independently.²⁷ Second, there is often significant blurring of definitions of mind-body techniques, making categorization difficult and possibly inaccurate. For example, one person's practice of yoga may involve primarily breath-centered meditative activities, while another's may involve more intense physical activity, incorporating body awareness and selective muscle relaxation. Another potentially confusing example involves the definition of a mind-body therapy as "relaxation-response": while only 1% reported practicing the "relaxation response," many of the 8.2% who reported using "meditation" or "other breathing techniques" likely invoked the "relaxation response" in their practices, and therefore could have been categorized differently. Respondents' answers to survey items further supported definitional confusion between classically defined mind-body therapies. For instance, responses to the prompt of "Have you used other relaxation therapies in the last year?" often resulted in mixed answers such as "visualization and controlled breathing," "take deep breaths, relax muscles, and visualize something pleasant," "music-meditation breathing technique," and "being one with my surroundings—focusing and self-hypnosis." Our evidence of blurring definitions between the myriad of mind-body therapies supports the development of a functional taxonomy of mind-body therapies that could be used for future research endeavors. Third, and in a similar vein, we recognize that the heterogeneous nature of mind-body therapies raises questions about the validity of combining data regarding different therapies for purposes of analysis. While research on the "relaxation response" supports some commonality in physiological pathways of different mind-body modalities,⁴ summary statements based on analysis of data combined from different mind-body therapies may not accurately represent individual therapies in some circumstances. Until an improved mind-body taxonomy is available and further research collects data in a manner that allows for clear differentiation between unique mind-body therapies, compilation of data from different therapies for analysis will be difficult to avoid. Last, our survey collected data in 1997–1998 and therefore reflects patterns of care present almost 5 years ago. While no national surveys have collected adequately detailed data on CAM therapies since 1997, serial studies using the same survey methodology demonstrated a 20% to 25% rise in use of mind-body therapies from 1990 to 1997.¹ If these trends continued in a linear fashion after 1997, current utilization of mind-body therapies would be predicted to be 16% higher than that which we report in this paper. While a 16% increase in utilization would not affect our conclusions, the lack of more recent survey data adds uncertainty to the analysis and is a limitation.

Overall, we found that mind-body therapies were commonly used, primarily without any professional assistance, for a wide variety of medical conditions. Mind-body techniques may be underused for conditions associated with documented benefits such as chronic pain, insomnia, coronary artery disease, headaches, insomnia, chronic low back, and disease and treatment-related symptoms of cancer, and possibly overused for other conditions, putting patients at potential risk. Clinicians have much opportunity to assist their patients, and likely the health care system as a whole, by referral to mind-body professionals in appropriate clinical circumstances. A proposed model for effectively referring to CAM mind-body providers has been formulated by Eisenberg.¹⁷ Given the fact that mind-body therapies were used by 1 in 5 adults in the last year for the full array of medical concerns, additional research regarding the efficacy and cost effectiveness of lack thereof of these therapies is clearly needed.

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