Patients Seek Integrative Medicine for Preventive Approach to Optimize Health

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Context: Despite the tremendous growth of integrative medicine (IM) in clinical settings, IM has not been well characterized in the medical literature.

Objective: To describe characteristics and motivation of patients seeking care at an IM clinic.

Design, Setting, and Participants: Patients from a nine-site practice-based research network participated in this cross-sectional survey. Clinicians documented patients' medical conditions.

Main Outcome Measures: Patients provided information on demographics, lifestyle factors, and reasons for seeking care at an IM center. Clinicians documented the medical condition treated and procedures performed at the visit.

Results: A total of 4,182 patients (84.5% white; 72.7% college-educated; and 73.4% female) reported their most important reasons for seeking IM. Top-ranked reasons were (1) "to improve health and wellness now to prevent future problems" (83.9%); (2) "to try new options for health care" (76.7%); and (3) "to maximize my health regardless of whether or not my illness is curable" (74.6%). Interestingly, the same top reasons were reported by subgroups of patients who sought IM for wellness, acute care, or chronic illness. Patient reports of lifestyle also demonstrated healthier behaviors than national samples indicate. Patients seeking clinical care at IM centers desire an expanded paradigm of health care, one that seeks to maximize health.

Key words: Integrative Medicine, PBRN, health promotion, prevention, optimal health

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INTRODUCTION

Integrative medicine (IM) is a new discipline with its own specialty centers, fellowship programs, and certification processes.[1,2] The IM approach augments conventional medicine by integrating an appropriate blend of western and nonwestern therapeutics to achieve optimal patient well-being via the use of a holistic and preventive framework.[1] IM focuses on building optimal health and managing disease by maximizing the health of the whole person—body, mind, and spirit—in the context of family and community. Although IM is different from complementary and alternative medicine (CAM), IM does incorporate evidence-based CAM into a much broader holistic approach than does conventional medicine.

Because the distinction is important, current data on CAM use may not adequately represent users of IM as a complete healthcare approach. IM uses the full range of physical, psychosocial, preventive, and therapeutic factors known to be effective for the achievement of optimal health throughout the life span.[1,2] Despite the tremendous growth of IM in clinical settings,[2-9] IM has not been well characterized in the medical literature. Although a methodologically rigorous evaluation of IM is needed at many levels,[2,10] a particular dearth of research is available at the practice level. Historically, IM programs have not

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EXPLORE November/December 2012, Vol. 8, No. 6
http://dx.doi.org/10.1016/j.explore.2012.08.005

been oriented toward research nor heavily invested in establishing the infrastructure to collect and manage data. The heavily patient-centered clinical focus of IM has been prioritized over the need for rigorous research initiatives, reducing the likelihood that high-quality data are routinely used to inform best practices.

However, to achieve the ultimate goal of safely providing effective IM interventions at a reasonable cost, the study of IM requires a phased research strategy that begins with a description of the existing landscape[11-13]–what does IM look like at the practice level, who are the patients, and why are they seeking IM? Practice-based research networks (PBRNs) provide a powerful vehicle for evaluating current medical practice in real-world settings.[14,15] Nine clinics across the country have collaborated to form the first IM PBRN: the Bravewell Integrative Medicine Research Network (BraveNet). The mission of this PBRN is to evaluate clinical outcomes in an effort to increase the evidence base of IM. Hence, the goals of this initial study were 2-fold: first, to introduce research into IM clinics and refine a research methodology that would allow for systematic data collection, and second, to use this methodology to characterize patients seeking care at the clinical sites in a systematic fashion by collecting information on patient demographics, health conditions, and lifestyle factors as well as patient goals and reasons for seeking IM care. This study is the largest study of its kind to characterize patients attending IM clinics across the country and will be necessary for future efforts to identify best clinical practices in IM.

METHODS

Patient Recruitment and Inclusion

Nine IM centers that comprise the BraveNet PBRN enrolled 4,182 participants between January 2008 and May 2011. By telephone or mail, participants were invited to enroll at the time of their next clinic visit. Although IM clinics were encouraged to collect data on sequential patients, logistical challenges prevented this from systematically occurring. At least seven of the clinics were limited to collecting data on days when research staff members were available to be present in the clinic. Individuals were eligible if they were at least 18 years of age, able to read, write and speak in English or Spanish, able and willing to provide consent, and receiving treatment by a clinician at one of the IM clinics. Individuals who only participated in educational activities at the IM center were not eligible. The Duke Clinical Research Institute provided network and study coordination, data management, and statistical support. Deidentified data were entered by the sites through a secure Web site into a central database and missing or unusual values were queried. All sites and the coordinating center received institutional review board approval.

Measures

Within 2 weeks of their IM clinic visit, participants provided basic demographics, information on lifestyle (eg, exercise habits and substance use), and current medical symptoms. Those individuals with more than three visits to the IM clinic were classified as "returning" patients, whereas those with three or fewer visits were deemed "new" patients. Reasons for seeking care at an

IM clinic and patient treatment goals were collected on a five-point Likert scale of personal importance. Clinic providers (eg, physicians, nurses, psychologists, medical and licensed acupuncturists, dieticians) also completed case report forms detailing information on the health conditions addressed and the therapeutic services received during the patients' visits. Descriptive names of therapeutic services were agreed upon by consensus drawing from the seminal work of Eisenberg and colleagues[3,4] as well as the National Health Interview Survey (NHIS) CAM survey definitions.[16,17]

Statistical Analyses

All descriptive statistics were calculated using SAS version 9.3 (SAS Institute, Inc, Cary, NC). Categorical variables were summarized with the use of frequencies and percentages whereas means and standard deviations were reported for continuous variables. Univariate analyses were used to detect outliers, which were subsequently submitted as queries to sites to ensure clean data. Age values were calculated from birth date to visit date, and those younger than 18 years of age that could not be validated by the sites were excluded from subsequent descriptive analyses. Body mass index (BMI) values were calculated using the Quetelet formula (weight in kg/height in m^2) from the World Health Organization. BMI values were queried when over 50; those that could not be validated were set to missing.

RESULTS

Patient Profiles

A majority of the participants were white (84.5%), non-Hispanic (91.2%), female (73.4%), and married (53.7%), with a mean age of 51.6 (SD 15.1) years. They were highly educated (72.7% with college or graduate degrees), and 42.3% reported annual household incomes greater than $100,000. Thirty-seven percent were "new" to the clinic, whereas 56% were returning patients with at least three previous visits. The most common medical condi-

Table 1. Top 10 Medical Conditions Addressed and Rank of Reasons for Seeking IM Care

Conditions Addressed	Percent (n = 4182)	Improve Health Now to Prevent Future Problems	Try New Options for Health Care
Pain (chronic)	33.1	1	2
Fatigue	10.2	1	2
Hyperlipidemia	10.0	1	2
Pain (acute)	9.7	1	2
Stress	9.3	1	2
Wellness visit	8.5	1	3
Cancer	8.3	4	1
Weight	8.0	1	2
Anxiety	7.7	1[a]	1[a]
Depression	7.2	1	2

IM, Integrative Medicine.
[a]Tied.

tions addressed are listed in Table 1. In 42.8% of the visits, providers reported treating pain-related conditions. The therapeutic services most commonly provided to patients included acupuncture (29.5%); IM consultation (24.5%); nutrition (14.1%); exercise consultation (7.6%); chiropractic (6.8%); preventative (6.2%); nonvitamin, nonmineral natural products such as herbs (5.9%); diet-based therapies (5.6%); massage (5.1%); mind-body (5.0%); and osteopathy (5.0%).

Lifestyle Indicators

Mean BMI was 26.0 (SD 5.7) kg/m^2; 49.5% of patients were overweight/obese. Ninety-three percent denied current tobacco use, although 56.3% noted previous use. Alcohol use was reported as follows: 45% none, 24% light (≤3 drinks/week), 21% moderate (women >3 and ≤7 drinks/week; men >3 and ≤14 drinks/week), and 10% heavy use (> moderate). Self-report of aerobic exercise was 31.3% with <20 minutes/week, 55.7% <3 days/week of 20 minutes/day, 29.0% with at least 20 minutes 3 to 4 days/week, and 15.2% practicing aerobic exercise ≥5 times/week.

Reasons for Seeking Care at IM Clinics

The top-ranked reason that patients reported for seeking care at IM clinics was "the desire to improve health and wellness now to prevent future problems" (Table 2). When we analyzed the patients separately by sex and status ("new" versus "returning"), the top two reasons remained the same. When we analyzed the patients separately by each of the 10 most common presenting health conditions (Table 1), the rankings were surprisingly consistent. The only categories of patients that exhibited a different pattern were those patients being seen for cancer, and to a lesser degree, those being seen for a wellness visit. Patients being seen for cancer ranked "I want to try new options for my health care" as their highest choice; "maximize my health regardless of whether or not my illness is curable" was ranked second; "to receive objective, medical advice on non-conventional approaches," and "I want to improve my health and wellness now to prevent future problems" were ranked fourth. Like all other patient categories, wellness patients ranked the desire "to improve health and wellness now to prevent future problems" highest, but ranked "to be in a place that acknowledges the connection between mind, body, spirit, and community" as second.

Participants' top two goals for their IM clinic visit were to "improve physical well-being" and to "improve enjoyment of my life" (Table 2). Subgroup analyses by sex, "new" or "return" patient status, and age by decade illustrate that these two goals were uniformly the top two except in the five sub-

Table 2. Patient Percentages of Reasons for Seeking Care at IM Clinic and Goals (n = 4182)

	Extremely/ Quite a Lot	Moderately	A Little Bit	Not at All
Reasons for seeking care at IM clinic				
I want to improve my health and wellness now to prevent future problems	83.85	9.21	3.81	3.13
I want to try new options for my health care	76.65	13.75	4.75	4.85
To maximize my health regardless of whether or not my illness is curable	74.62	11.71	4.31	9.35
To be in a place that acknowledges the connection between mind, body, spirit, and community	70.33	13.51	6.47	9.69
To receive objective, medical advice on nonconventional approaches	67.24	16.75	6.67	9.34
To receive care in a safe, healing environment	66.71	17.56	7.55	8.18
A place where I can receive care from a multidisciplinary team	58.48	18.62	9.38	13.52
I want more input into my health care decisions	53.14	21.25	9.98	15.63
Because someone I know and trust recommended your center	52.74	14.26	8.39	24.61
A place that is more compatible with my beliefs and culture	42.44	17.23	12.97	27.36
I want more time with my physician	36.36	22.21	11.66	29.77
I am not satisfied with my current health care resources	35.74	19.14	14.59	30.53
Goals for IM visit				
Improve my physical well-being	85.89	10.26	2.23	1.62
Improve my enjoyment of life	77.33	12.97	4.12	5.58
Obtain information on ways to improve health	63.62	18.31	8.22	9.85
Improve leisure activities including exercise	62.78	18.38	7.42	11.42
Decrease my pain	61.16	11.16	8.15	19.53
Improve my mood	60.14	19.37	8.37	12.12
Perform normal work at home and outside the home	58.56	16.53	7.36	17.56
Improve my sleep pattern	51.53	19.10	9.91	19.46
Improve my family and social relationships	37.32	18.35	13.69	30.63
Address spirituality as an aspect of my care	29.85	17.37	14.34	38.43

IM, Integrative Medicine.

jects older than 89 years of age who rated improved physical well-being as lower.

DISCUSSION

In this first, large-scale study to describe patients attending IM clinics across the country we discovered three key findings. First, these IM clinics draw highly educated, middle-aged, white female patients, comparable with the sociodemographic reports from the 2002 and 2007 National Center for Health Statistics surveys of CAM use.[16,17] Although CAM use is most prevalent among white female subjects, it is clear that many racial and ethnic groups use CAM[16,18] yet apparently receive these services outside of IM clinics.

Second, patients' primary reason for seeking care at IM clinics was to take a preventive approach to health. Prevention remained the top reason regardless of sex, "new" or "return" patient status, or specific health condition. The results of previous large-scale studies suggested that patients seeking CAM were motivated by provider characteristics, desire for individualized treatment regimens, and the perception of overall effectiveness rather than efficacy.[3-5] Different methodology prohibits a direct comparison of these samples and our sample. Nevertheless, it is notable that in our study, 84% of IM patients had a decidedly preventive focus, whereas in previous CAM studies only one-third of CAM patients did not use CAM for their principal medical conditions, but rather "for non-serious medical conditions, health promotion, or disease prevention."[3] The significantly greater percentage of patients seeking a preventive approach in our study may reflect several different possibilities: either IM pulls from a larger patient audience than does CAM and includes more prevention-seekers or patients today are seeking more preventive approaches at this time, perhaps reflecting a paradigm shift in our culture.

Finally, looking across five important lifestyle variables, it is evident that our cohort reported healthier lifestyles than the average U.S. adult, which is consistent with their preventative approach to health. For example, rates of never smoking and previous smoking were comparable between the BraveNet cohort and the national average.[19] However, the fact that only 7.3% were currently using tobacco indicates greater health consciousness than is typical in national surveys. Nationwide smoking estimates range from 18.1% to 23.1%, with greater estimates in white subjects (25.0% of men; 20.7% of women).[19,20] These reported smoking rates are considerably lower than those documented in a recently published reanalysis of the 2007 NHIS data that illustrated that 17.4% of the nationally representative sample used CAM.[21] As a second example of the healthier lifestyles of IM patients, the percentage of participants with insufficient exercise (55.7%) was similar to the national average (51.2%).[22] However, the percentage of our patients exercising at moderate or higher levels (44.3%) was significantly greater than national averages (28%).[19] Because greater levels of physical activity are associated with greater educational levels, greater income levels, and being white,[19] the difference may simply reflect sociodemographics. Nonetheless, a large nationally representative CAM study also found a strong positive association between physical activity and CAM use.[23] A third example of the apparent health

consciousness of our cohort is illustrated by the fact that a considerably lower percentage of both new and returning participants (49.5%) fell into the overweight/obese ranges than the U.S. population (68%).[24,25] The latter finding is consistent with recent analyses of the 2007 NHIS data that demonstrated 54% of CAM users were overweight or obese.[21]

With lifestyle as the underlying cause of heart disease, stroke, cancer, and diabetes[26]—conditions that account for 70% of all U.S. deaths[27]—it is notable that this emerging field draws individuals seeking preventive health. Although our data represent only one point in time, the comparison of new and returning patients suggests that those who seek IM may be more health conscious to begin with, but may also improve lifestyles across treatment. For example, percentages of patients who currently use tobacco were lower than national averages, and return patient smoking rates were even lower than new patient rates. Similarly, compared with new patients, fewer returning patients reported insufficient exercise and more reported high levels of exercise. Although longitudinal studies are needed for confirmation, this cross-sectional study suggests that those seeking IM are indeed practicing healthier lifestyles upon entry to the IM clinics, and they may further improve their lifestyles during their care. Regardless, respondents were clearly seeking preventive and novel options consistent with those proposed in the current U.S. health care reform effort.

Limitations to this study include (1) the cross-sectional design, which does not allow us to evaluate preferences and lifestyle changes over time; (2) self-reported lifestyle data, which is likely to underestimate negative health behaviors and overestimate positive ones[28]; (3) limited generalizability, given that we could not include those who declined to consent and the majority of the sample was white, female, and highly educated; and (4) restrictions in sampling strategy. As each of the nine clinics developed a research infrastructure, they used distinct sampling strategies governed by the logistics of each clinic. For example, seven of the clinics only had research personnel available on certain days of the week; hence, all subjects from those sites were enrolled on those same days.

Despite these limitations, our findings represent an important step as the first study to characterize patients seen across multiple IM clinics. With this newly developed research infrastructure in the nine clinics of BraveNet, further studies will focus on the natural course of integrative treatment for various conditions and to identify best clinical practices.

for Integrative Medicine; Jeanne Kenney, RN, of the Continuum Center for Health and Healing; Michael Matthews, BS, of the Myrna Brind Center for Integrative Medicine; and Desiree Trebesch, MA, and Shaina Biron, BS, of the Penny George Institute for Health and Healing. This paper is dedicated to the memory of Elizabeth Kimbrough Pradhan, PhD.

APPENDIX

Sites for this study include The Alliance Institute for IM, Cincinnati, OH; Continuum Center for Health and Healing, New York, NY; Duke Integrative Medicine (IM), Durham, NC; Jefferson-Myrna Brind Center for IM, Philadelphia, PA; Penny George Institute for Health and Healing, Minneapolis, MN; Scripps Center for IM, La Jolla, CA; University of California, San Francisco Osher Center for IM, San Francisco, CA; University of Maryland Center for IM, Baltimore, MD; and the Simms Mann Family Clinic, Venice, CA. The Duke Clinical Research Institute (DCRI) provides network and study coordination, data management, and statistical support.

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