

The Use of Experiential Learning Modules to Teach Integrative Medicine Approaches

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ABSTRACT

Background Complementary, alternative, and integrative medicine (CAIM) are considered important in shifting toward whole person care. Residents remain limited in their understanding of CAIM approaches, preventing effective utilization.

Objective We created modules to expose residents to available CAIM approaches in a Veterans Administration setting, using conceptual frameworks for experience-based learning.

Methods In June 2016, 38 internal medicine residents at the VA Greater Los Angeles Healthcare System were randomized to 45-minute small group sessions. One cohort received an experiential module incorporating 10-minute practices of yoga, biofeedback, and acupressure. The other cohort received a standard lecture focused on CAIM use and outcomes. Participants completed a 6-question quiz to measure their understanding of CAIM use and an 8-question survey to assess their satisfaction of teaching, exposure to CAIM, and anticipated practice change. Referrals to CAIM modalities before and after the learning modules were counted to assess practice change.

Results All 38 residents completed the study, with 25 residents completing the experiential learning modules and 13 completing the standard lectures. Initial postquiz scores were similar. Five months postintervention, residents who participated in experiential modules were more likely to refer patients to CAIM modalities than those who received standard lectures (3.4 per month versus 0.6 per month, $P = .018$).

Conclusions This study highlights the advantages of experiential learning of CAIM approaches for residents. It reinforces existing literature suggesting that physicians who experience CAIM are more likely to incorporate these approaches into practice.

Introduction

Complementary, alternative, and integrative medicine (CAIM) encompasses a wide variety of techniques and medical approaches, from nutraceutical supplementation to acupuncture to Ayurvedic medicine. At a time when health care costs are exponentially increasing and sustainability is a consideration, patients and physicians are seeking lower-cost alternatives that focus on prevention and promote health and well-being. In the 2012 National Health Statistics Report, the most common CAIM interventions utilized by American adults in the last year were nonvitamin nonmineral natural products (17.7%), deep breathing exercises (10.9%), yoga/tai chi/qi gong (10.1%), chiropractic or osteopathic manipulation (8.4%), and meditation (8.0%), with 33.2% of adults having used CAIM at some point in the last 12 months.¹

Integrative medicine can assist patients with chronic pain and illness, yet physicians often cite a lack of knowledge, skills, or confidence in counseling about CAIM techniques when asked about barriers to providing CAIM care to patients.²⁻⁴ While the National Center for Complementary and Integrative Health has provided funding for the development of

evidence-based medicine curricula, a more formalized approach to incorporating CAIM education in medical school has yet to gain popularity.⁵

Despite the paucity of formalized education pathways, medical trainees' exposure to CAIM techniques in medical school and residency has grown.⁶ Since 2003, the David Geffen School of Medicine at the University of California, Los Angeles (UCLA) has incorporated patient-centered approaches, which have increased exposure to CAIM techniques. UCLA students, residents, and fellows have an array of elective opportunities to engage in learning and practicing CAIM at the Center for East-West Medicine, including a summer course for undergraduates, a first-year medical student elective rotation, a fourth-year medical student clerkship, elective resident rotations, and physician fellowships.⁷ Despite this exposure, few residents or medical students rotating at the VA Greater Los Angeles Healthcare System discussed or referred patients to CAIM approaches during VA rotations. The VA Greater Los Angeles was an early adopter of CAIM techniques, particularly in managing chronic pain. In addition, its universal electronic health record and provision of comprehensive care lends itself to tracking program implementation, physician practice change, and patient outcomes.

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To increase resident exposure to CAIM and to enhance knowledge about CAIM approaches available, we created experiential learning modules in integrative techniques during the residents' VA ambulatory medicine rotation. We hypothesized that an experiential learning model would improve resident understanding of CAIM modalities and increase their incorporation into clinical practice.

Methods

All internal medicine residents (postgraduate year 1–3) rotating through the VA received a small group teaching session on integrative medicine in June 2016. The UCLA internal medicine VA primary care rotation is conducted in 5 small groups of 7 to 8 residents, who rotate through the primary care clinics for 1 week, with varying schedules. Each group was randomly assigned to 1 of two 45-minute small group teaching sessions: (1) an experiential learning module incorporating 10-minute practices of yoga, biofeedback, and acupressure with 5 minutes for questions after each module, or (2) a standard lecture focused on uses and outcomes of CAIM in the management of chronic disease lasting 40 minutes with 5 minutes for questions. One author (R.M.) taught all sessions. The experiential learning module was structured according to Kolb's theories, giving residents concrete experiences in practicing acupressure, biofeedback, and yoga,⁸ including stimulating standard acupressure points on themselves, practicing biofeedback, and participating in some yoga poses and stretches. In the standard lecture model, residents listened to a PowerPoint presentation on integrative modalities and received a handout with information, references, and illustrations on the same CAIM modalities as the interactive session. Residents could ask questions of the instructor. Three groups received the experiential session and 2 received the standard lecture.

To assess postintervention knowledge gain related to CAIM interventions, residents completed a 6-question, single-best answer, multiple-choice quiz developed by the research team without additional testing. This same quiz was readministered 5 months later to assess knowledge retention. Participants also completed an 8-question survey to assess satisfaction with teaching style, exposure to CAIM modalities, and anticipated practice change. We assessed practice change by monitoring the number of patient referrals to integrative medicine at the VA before and after the intervention.

All portions of the study were approved by the VA Greater Los Angeles Healthcare System Institutional Review Board with appropriate informed consent obtained.

What was known and gap

Complementary, alternative, and integrative medicine can move care toward a focus on holistic care, but is infrequently taught in residency.

What is new

A comparison of experiential modules versus traditional lectures to expose internal medicine residents to complementary, alternative, and integrative medicine approaches in a VA setting

Limitations

Small, single specialty sample; setting may be limited in generalizability beyond the VA.

Bottom line

The experiential learning modules showed slightly higher effectiveness for longer-term retention and practice change.

Results

All 38 resident participants completed the study, with 25 residents completing the experiential teaching module and 13 the standard lecture. Survey results suggested only modest personal and professional exposure to CAIM techniques prior to the study. Knowledge assessment quiz scores immediately after the teaching session were similar for the experiential and standard lecture groups at 0.8 and 0.846, respectively, and a *t* test comparing the groups showed a *P* value of .37. Twenty-three of 25 residents in the experiential learning group had similar scores on the second administration after 5 months, with a score of 0.78 (*P* = .08). Twelve of 13 residents who received the standard lecture scored lower on the follow-up quiz at 0.72 (*P* < .01; FIGURE 1). There was no statistically significant differences between the scores for the 2 groups at 5-month follow-up at 0.78 and 0.72, respectively (*P* = .27).

In addition to improved knowledge retention at 5 months, residents in the experiential learning group were more likely to refer patients to CAIM modalities than those who had received the standard lecture (3.4 per month versus 0.6 per month; *P* = .018; FIGURE 2). During the intervention, the overall number of referrals to integrative medicine at the VA increased since more primary care physicians referred to the newly offered service. Using the electronic health record we were able to isolate data for participants.

Discussion

Both experiential and lecture-based small group teaching of CAIM modalities in IM residents resulted in improved knowledge. While the difference in knowledge retention for the experiential group was not statistically significant, residents in this group were 5 times more likely to refer patients for integrative medicine consultation.

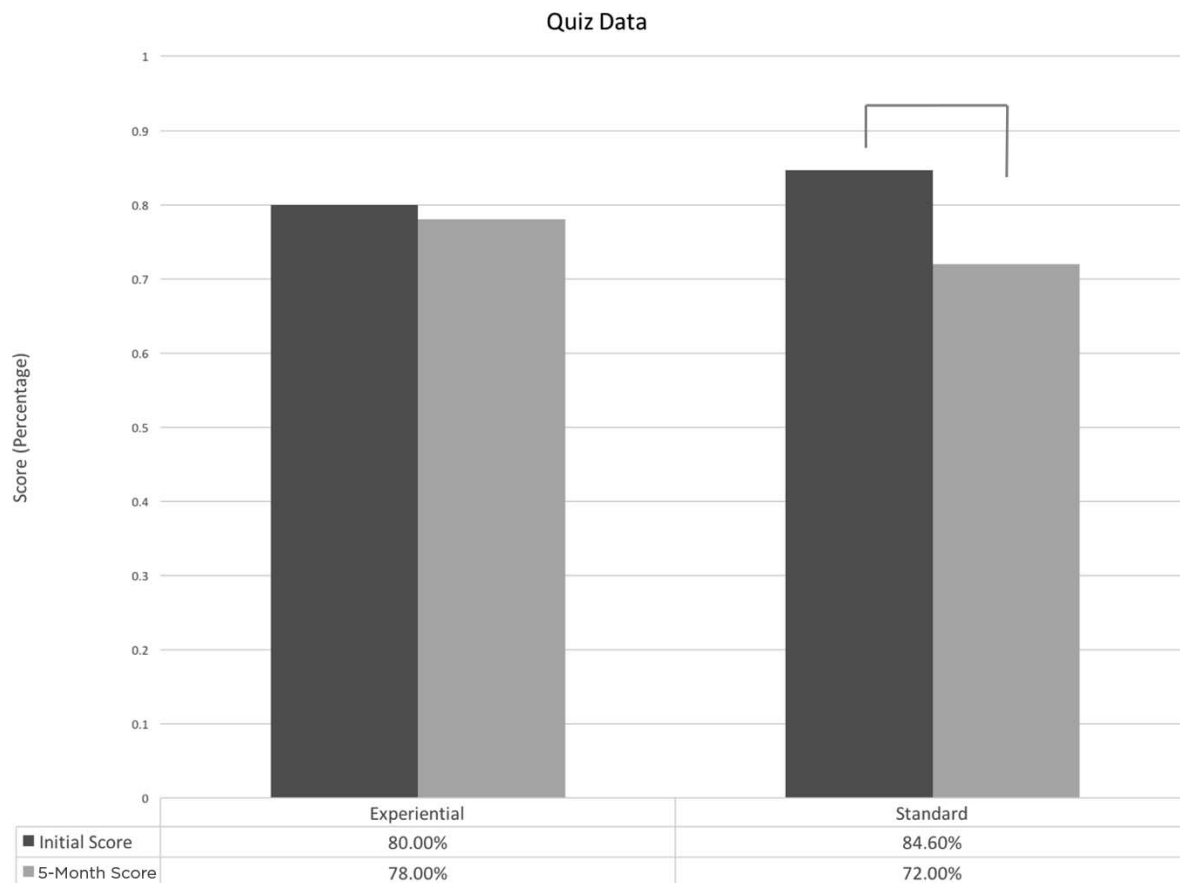


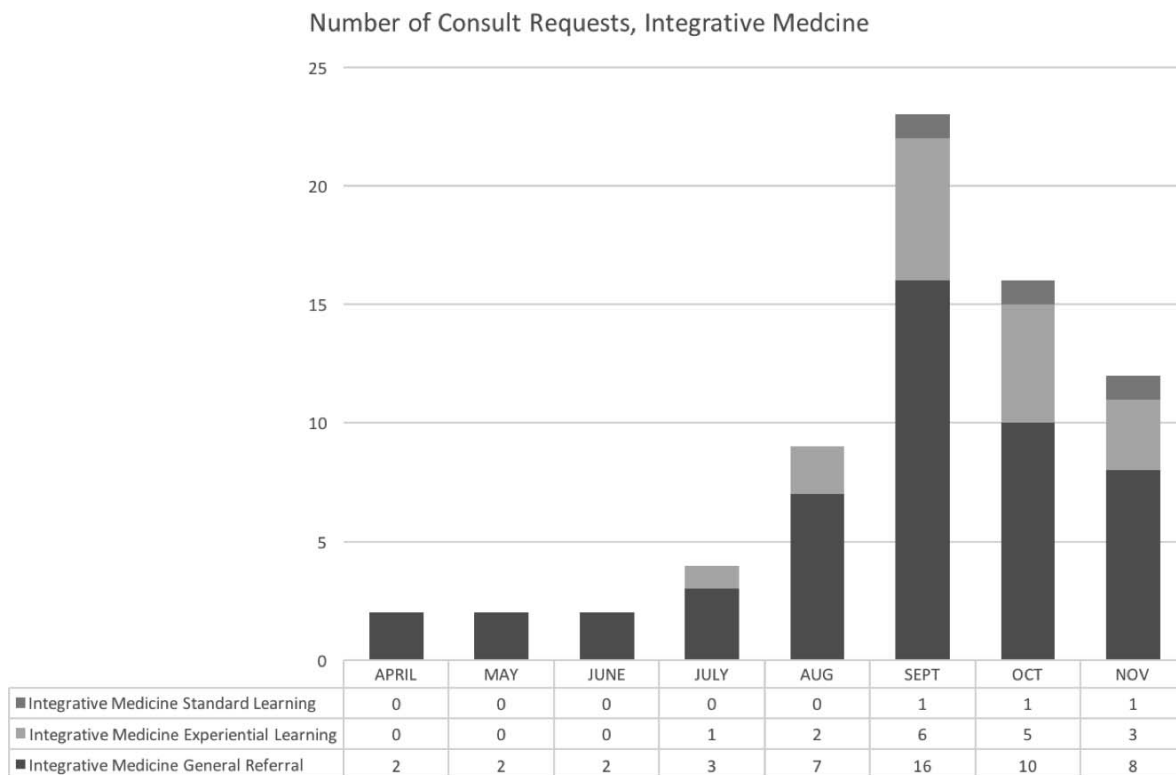
FIGURE 1
Postteaching Module Knowledge Assessment^a

^a Scores from a 6-question quiz taken immediately after teaching intervention and again 5 months after teaching intervention.

Our findings support existing literature that physicians who experience CAIM modalities are more likely to incorporate them into their professional practice.⁹ Our study also supports existing literature showing that experiential learning can increase information retention, utilization of new knowledge and/or skills, and adaptability in both classroom and clinical settings.^{6,9–11} Prior studies on the implementation of integrative medicine curricula have shown feasibility, acceptance, and effectiveness after relatively small interventions.¹² While the cost of our intervention was not measured, our study was performed without additional funding. The experiential learning intervention and lecture were administered during the standard VA ambulatory curriculum, and no additional time or cost was incurred. All teaching materials used, including handouts and equipment, were already developed or purchased by the VA's integrative medicine division. Incorporating experiential learning sessions on CAIM modalities offers an inexpensive and efficient way for faculty with CAIM experience to demonstrate relevant approaches to residents during time already set aside for learning.

The VA Greater Los Angeles offers individual and group acupuncture sessions, tai chi, yoga, a teaching kitchen, and clinical visits at the center for integrative medicine. This likely facilitated the ease with which residents in our study were able to offer referrals postintervention and build on their existing newly acquired knowledge. Measuring practice change through referrals to the integrative medicine division was simple due to the VA's electronic health record and comprehensive care setting. Of note, our intervention took place when the Integrative Medicine Center at the VA Greater Los Angeles was new and heavily marketed. During this time, primary care physicians and staff received information about CAIM modalities available at the VA and were encouraged to refer veterans to these services.

In some community settings, finding CAIM professionals to whom patients can be referred may pose barriers to increasing alternative medicine referrals. For institutions lacking an associated integrative medicine facility or local expertise, online modules may offer a viable alternative, but knowledge retention and practice change may be lower.

**FIGURE 2****Pre- and Postteaching Module Consultations to Integrative Medicine^a**

^a Teaching on integrative medicine (via standard lecture or experiential modules) occurred in June. The general referral reflects consults from primary care physicians at the VA not included in our study.

Our study has limitations, including a small sample, a single specialty and site, and a single testing iteration using an instrument without validity evidence, with all potentially reducing generalizability.

Future studies should include broader assessments of experiential learning and retention of knowledge and referral behaviors over time, as well as whether beneficial patient outcomes might influence future resident referrals. Analyzing referral rates over a longer time period may offer insight into the need for continuing education on CAIM modalities throughout residency.

Conclusion

We showed that small group experiential learning modules during dedicated teaching time are feasible for improving resident physician knowledge and use of CAIM.

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