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Evaluating the Impact of Pain Management (PM) Education on Physician Practice Patterns—A Continuing Medical Education (CME) Outcomes Study

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Abstract California Assembly Bill AB487 mandates that all practicing physicians are required to obtain 12 h of Continuing Medical Education in Pain Management and End of Life Care before the year 2006 in order to renew their state license to practice medicine. In order to determine the effectiveness of this bill in influencing the practice of medicine, we conducted the first of five planned annual Pain Management seminars and utilized physician questionnaires to determine possible practice changes as a result of this seminar. Eighty-one physicians representing 17 multiple specialties of medicine enrolled in this seminar. The topics included: management of malignant and non-malignant pain, pharmacology and management of side effects of opiate and non-opiate analgesics, and adjunctive therapies including depression management and spirituality issues. Physicians were asked to respond to an immediate post-seminar questionnaire and were subsequently queried 4 months following the conference. Fifty-one out of 81 physician registrants responded to an immediate post-attendance questionnaire,

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and 31 responded to the 4-month follow-up questionnaire. Responses included:

	Early	Late
I will change/have changed my practice	34	28
I see no need to change my practice	6	2
I will await further information	7	1
No response regarding practice change	4	
Responses of those who changed their practices included:		
Increased use of known modalities for pain control		21
Earlier referrals to specialists		14
More attention to psychosocial aspects		14
Use of new drugs/modalities of care		11

This audience represents the most motivated group of practitioners electing to receive Pain Management Education long before the mandated deadline. Sixty-seven percent expressed an interest in changing their practice following this intensive educational experience. Ninety percent responding to the follow-up evaluation indicated that their practices had changed, suggesting that this seminar series is effective in altering physician practice patterns (supported by Cancer Center Support Grant CA 33572 and Sarnat Foundation).

Keywords California Assembly Bill AB487 · Pain management · Practicing physicians

Introduction

During the past 30 years education in pain management and care for dying patients has been neglected while medicine has focused on highly technological advances. This has led to increasing discrepancy between patients' desires and the care that they receive at the end of life in the American health care system. What patients most desire at the end of life is to maintain their dignity and to be free of pain. Yet a 1994 study showed that cancer patients frequently received inadequate pain relief [1]. In 1997, the Institute of Medicine study, Approaching Death: Improving Care at the End of Life [2], recommended changes in undergraduate, graduate, and continuing medical education to improve the attitudes, knowledge, and skills of practitioners caring for dying patients. Subsequently, medical schools have added training in these areas to their curricula, but physicians in practice, who have not been exposed to these new classes, continue to feel uncomfortable with care and pain management at the end of life [3]. Reasons cited by practicing physicians for failure to treat pain adequately include insufficient knowledge about the assessment and management of pain, lack of accountability for providing effective pain relief, concerns about regulatory scrutiny of prescribing practices, and concerns about the risks of addiction, tolerance, and adverse side effects associated with opioid analgesia [4]. All of these issues are becoming more prevalent due to an aging population of patients and advances in treatments which allow more patients to survive longer.

Since the early 1950s "Continuing Medical Education" (CME) has been advocated and supported by the AMA, medical schools, and various specialty societies to address the gap between available medical knowledge and the individual application of that knowledge in practice. Yet despite much rhetoric about making pain control and end of life care a priority in continuing medical education, little change has been demonstrated in physician practice through the 1990s [5].

Following several court cases charging poor care and pain control at the end of life, California Assembly Bill 791 was passed in 1999. This law required pain management and end of life care to be part of the curriculum in all medical schools after June 1, 2000 and required that health care facilities document level of pain as a fifth vital sign. In addition, to address the needs of practicing physicians, California Assembly Bill 487 was passed which required a minimum of 12 h of CME credits on pain control and end of life care by 2006 for all physicians applying for California State Medical Licensure or renewal of their medical license. Despite this mandate, there was a concern by many that didactic sessions would not be successful in changing practice and that doctors would resent these mandated programs.

Hypothesis

We hypothesized that mandated Continuing Medical Education can be used successfully to change physician attitudes and practice. We hypothesized that even though continuing education on pain management and end of life issues was mandated by law, physicians would find the topic relevant to their practices and be open to changing their practice patterns.

Methods

The Departments of Continuing Medical Education and Supportive Care Services of the City of Hope Comprehensive Cancer Center sponsored a 2-day didactic conference on Pain Management in October of 2002 to fulfill the requirements of California bill AB487. Topics covered included management of malignant and non-malignant pain, pharmacology, management of side effects of opiate and non-opiate analgesics, procedural interventions, psychosocial interventions, and spiritual/existential issues. Anonymous questionnaires were administered immediately following the conference (Early group) and were sent to physicians once at 4 months after the

conference (Late group) to determine attendees' self-reported intention to change their practices.

Subjects

Subjects were physician attendees who chose to attend this conference on Pain Management Education. This conference was held in 2002 to fulfill the mandated 12 h of requirements for training. Mandated deadline for fulfilling the requirement was not until 2006. Physicians were asked to respond to the questionnaire and their completion of the questionnaire was considered to indicate their informed consent to participate in this study. All questionnaires were completed anonymously. This study was approved by the Institutional Review Board of City of Hope Comprehensive Cancer Center prior to initiation.

Statistics

Results are presented using descriptive statistics. Since results were obtained anonymously, they could not be paired for comparison.

Results

Eighty-one physicians attended the conference and 51 out of 81 (63%) completed the initial post-conference questionnaire defined as the Early group. There were 31 out of 81 (38%) who responded to the 4-month questionnaire, defined as the Late group. The physician attendees were from 17 different medical specialties (Table 1).

In the Early group, 34 out of 51 (67%) agreed with the statement: *I will change/have changed my practice.* Only six out of 51 (12%) agreed with the statement: *I see no need to change my practice* while seven out of 51 (14%) agreed with the statement: *I will await further information* and four out of 51 (8%) did not respond to the question regarding practice change. In comparison at 4 months, 28 out of 31 (90%) of respondents agreed with the statement: *I will change/have changed my practice* while two out of 31 (6%) saw no need to change their practice and one out of 31 (3%) were awaiting further information (see Table 2).

Respondents who changed their practices were asked in what way their practices had changed. Responses included: increased use of known modalities for pain control (21), providing earlier referral to specialists (14), paying more attention to psychosocial aspects of care (14), and use of new drugs/modalities of care (11). Sample responses to the statement "I will change my practice as follows" are shown in Table 3.

Discussion

In this survey of physicians attending mandated CME training in pain management and end of life issues, the majority of respondents (67%) stated that they planned to change their practice based on the information they had received. Although the response rate to the survey was lower at 4 months post-conference, an even larger majority of respondents (90%) indicated that they had, in fact, changed their practice based on the CME program. This willingness and motivation to alter practice based on CME education is the first step in implementing real improvements in patient outcomes and goes against some educators' claims that didactic teaching does not lead to effective adult learning.

There are many stages in the outcomes of CME training for physicians. The initial stage is for the physician to assimilate the new knowledge. The second stage is that the physician be convinced enough of the new information that they are willing to change their practice. Only then can the third stage of implementation of the new material be realized and improvements in patient care be achieved. This continually improving knowledge base and evolving clinical practice also lead to reduced physician "burn out" since the physician feels more competent to address issues in their practice and is enriched by understanding the new concepts and techniques.

Most CME programs measure an immediate change in physicians' knowledge levels with a factual post test at the end of the CME program. As practicing medical oncologists,

Table 1 Subspecialties of physician attendees

Specialty	*N*	Specialty	*N*
Surgery	9	OB/Gyn	2
General Practice/Family Practice	8	Dermatology	1
Anesthesia	8	Endocrinology	1
Medical Oncology	7	Otolaryngology	1
Psychiatry	7	Geriatrics	1
Hematology/Bone marrow transplant	5	Radiation Oncology	1
Pediatrics	4	Urology	1
Pain Medicine	3	Medical Genetics	1
		Not specified	21

Table 2 Respondents answers

Statement	Early Group (*N*; %)	Late Group (*N*; %)
I will change/have changed my practice	34 (67%)	28 (90%)
I see no need to change my practice	6 (12%)	2 (6%)
I will await further information	7 (14%)	1 (3%)
No response regarding practice change	4 (8%)	
Totals	51	31

as well as CME conference organizers, we appreciate that change in practice patterns requires time. We sought to go one step further and determine whether physicians were motivated enough to change their practice based on what they had learned. With the follow up survey at 4 months, we sought to determine whether their attitudes toward change had been sustained and whether they had actually changed their practice. Although audits of patient charts would be the gold standard for measuring this type of change, this was not practical for the diverse group representing 17 different specialties who attended the conference. Therefore, we relied on physician self-reporting which is potentially more error-prone. Another limitation of our anonymous survey was that we could not determine whether those who intended to change immediately post-conference were the same ones who later reported that they had made changes in their practices.

Our study does have some limitations. The numbers reported here are small and not all attendees responded to the surveys. However, the percentage of respondents is consistent with other studies of this type. The number of respondents at the 4-month survey was smaller and yet the number reporting change was higher. This could reflect a greater willingness to respond to the survey among those who were highly motivated to change which could introduce some bias into the results. Finally, this particular sampling of clinicians may have been more highly motivated to change since they sought out this course in 2002 which was well before the mandated deadline of 2006.

Although there is a long history of states requiring proof of CME training for physicians seeking licensure, the idea of the state mandating specific CME topics for training is a new one. This study indicates that such legislation can be an effective tool for ensuring that physicians receive specific training. However, there may be limitations to legislating CME topics in that the topics must be sufficiently broad to be relevant to all practitioners from pediatrics to surgery to geriatrics. The current topic fits that criterion well since it is important for all practitioners.

CME providers continue to face challenges promoting course content that is perceived to be less cutting edge science and more related to the humanistic side of medicine. These "underserved" topics are recognized as important by patients and patient advocates and more recently by accrediting bodies such as the JCAHO and other regulatory groups. Therefore, CME providers must develop strategies to promote education regarding these underserved topics to health care providers.

In conclusion, physicians in this study were more open to changing their practices than many would have pre-

Table 3 Sample responses

I will modify my practice as follows:
More cognitive-behavioral approach
Better use of laxatives
Pain contract with the patient
More aggressive and more competent pain control, appropriate referrals
Better application of pain control protocols
More attention to psycho-spiritual needs of patients
Use of new anti-depressants
Management of pain and anxiety at end of life
I will use more opiates when necessary
Make adjustments in specific practice strategies and treatments
Improved approach to pain management
More aggressive and more competent pain control, appropriate referrals
Treatment of migraines
Use more narcotic and adjust medications with narcotics
Better application of pain control protocols, more conscious pain management

dicted. At 4 months, 90% of respondents indicated that they had, in fact, changed their practices based on information from the CME program in specific ways. This indicates that CME, even mandated CME topics, can be a powerful tool for certain socio-political changes and can be effective in influencing physician practice patterns. Further studies to evaluate the patient care outcomes by performing chart audits of individual or groups of physicians may be indicated to determine whether self-reported changes accurately reflect changes in practice. Use of mandated topics for CME education in subjects that pertain to broad segments of the population can be effective in ensuring that physicians remain up to date in areas of training critical for patient care.

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