INNOVATIONS IN EDUCATION

Primary Care Provider Concerns about Management of Chronic Pain in Community Clinic Populations

Carole C. Upshur, EdD,[1] *Roger S. Luckmann, MD, MPH,*[1] *Judith A. Savageau, MPH*[1]
[1]Department of Family Medicine and Community Health, University of Massachusetts Medical School, Worcester, MA, USA.

BACKGROUND: Chronic pain is a common patient complaint in primary care, yet providers and patients are often dissatisfied with treatment processes and outcomes.

OBJECTIVE: To assess provider satisfaction with their training for and current management of chronic pain in community clinic settings. To identify perceived problems with delivering chronic pain treatment and issues with opioid prescribing for chronic pain.

DESIGN: Mailed survey to primary care providers (PCPs) at 8 community clinics.

RESULTS: Respondents (N=111) included attendings, residents, and nurse practioners (NPs)/physician assistants (PAs). They reported 37.5% of adult appointments in a typical week involved patients with chronic pain complaints. They attributed problems with pain care and opioid prescribing more often to patient-related factors such as lack of self-management, and potential for abuse of medication than to provider or practice system factors. Nevertheless, respondents reported inadequate training for, and low satisfaction with, delivering chronic pain treatment.

CONCLUSIONS: A substantial proportion of adult primary care appointments involve patients with chronic pain complains. Dissatisfaction with training and substantial concerns about patient self-management and about opioid prescribing suggest areas for improving medical education and postgraduate training. Emphasis on patient-centered approaches to chronic pain management, including skills for assessing risk of opioid abuse and addiction, is required.

KEY WORDS: pain; primary care; vulnerable populations; physician satisfaction; medical education.
DOI: 10.1111/j.1525-1497.2006.00412.x
J GEN INTERN MED 2006; 21:652–655.

Studies about primary care treatment of chronic pain report providers feel they have inadequate training, limited confidence in their ability to provide effective treatment, and a low level of satisfaction with their care of chronic pain patients.[1–4] Recent controversies over prescribing opioids for chronic pain, and reports of diversion and abuse, have made providers even more uncertain about how to appropriately treat patients with chronic pain.[2,5–8] At the same time, disparities in pain treatment have been documented.[9–15] The current study was undertaken to determine if providers in racially and economically diverse community clinic settings had similar views as those found in prior provider surveys, and to determine their perceptions about the challenges of providing chronic pain care.

METHODS

The study was approved by the Institutional Review Board of the University of Massachusetts Medical School. Participating sites included 5 federally qualified health centers (FQHCs), 2 hospital-operated community health centers, and 1 hospital-based practice. All sites served large numbers of uninsured and Medicaid-insured patients, and with 1 exception, were highly diverse in terms of patient ethnicity (nonwhites ranged from 40% to 85% of all patients).

Survey questions were drawn from prior studies,[1,3] and nominated by an advisory group consisting of primary care providers (PCPs), researchers, and a board-certified pain specialist. The questions covered: problems related to chronic pain management, issues in opioid prescribing, likelihood of prescribing opioids, estimates of co-occurrence of psychosocial conditions with chronic pain (e.g., depression, substance abuse), and satisfaction with training and with care delivery for chronic pain (Tables 1 and 2 show the questions about treatment problems and issues in opioid prescribing). Questions were pretested by 3 PCPs and revised. The survey was distributed along with a print-out of patient appointments for a recent randomly selected week. Providers were asked to indicate the number of listed patients who had a current chronic pain complaint, and the type of complaint, regardless of the reason for the appointment.

RESULTS

Characteristics of the Sample

A total of 111 of 178 surveys were returned, or 62.3% (range for individual sites of 46.6% to 100%). Respondents included 67 attending physicians (60 family practice, 4 internal medicine, 3 osteopathy), 19 nurse practitioners (NPs), 3 physician assistants (PAs), and 22 family practice residents. The sample was 55% female and 82% white. A mean of 37.5% of adult patients seen in the targeted week across all providers was reported as having a current chronic pain complaint. About one-fourth of patients had back pain (23.6%), followed by joint pain (17.1%), headache (12.1%), generalized pain (7.8%), neck pain

The authors have no conflicts of interest to declare.

Presentations: Preliminary findings from this study were reported at the following: Society of Teachers of Family Medicine, September 2003, Atlanta GA; American Public Health Association, November 2003, San Francisco, CA; American Public Health Association, November 2004, Washington, DC.

Address correspondence and requests for reprints to Dr. Upshur: Department of Family Medicine and Community Health, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, MA 1655 (e-mail: Carole.upshur@umassmed.edu).

Manuscript received August 31, 2005
Initial editorial decision October 7, 2005
Final acceptance January 24, 2006

(7.5%), abdominal pain (6.8%), fibromyalgia (5.7%), and arm pain (5.2%). Pelvic pain, neuropathic pain, and complex regional pain syndrome were each reported at less than 5%.

Problems Providing Optimum Pain Relief

Respondents rated 11 possible problems in providing effective pain treatment for their patients (Table 1). The majority of providers rated patient self-management, patient psychological factors, and patient compliance as frequently or always preventing optimal pain treatment. In contrast, much smaller proportions of providers rated any of the 5 provider or system factors as frequently or always implicated in failure to help patients obtain optimal relief.

Use of Opioids

Providers were asked to rate their likelihood of prescribing opioids for chronic pain when other treatments were ineffective on a scale of 0=not at all likely to 4=very likely. Only 28.8% rated themselves as highly likely to prescribe opioids (rating of "3" or "4"). They also rated issues preventing prescribing opioids for chronic pain (Table 2). Fear of the patient becoming addicted, followed by fear of patients selling the opioids were noted as the strongest reasons prevention opioid prescribing. Few respondents indicated a large effect of law enforcement scrutiny on their willingness to prescribe opioids.

Analyses were conducted to compare demographic characteristics, and ratings of treatment problems, opioid issues, and co-occuring patient psychosocial characteristics, for providers reported less likely to prescribe opioids (n=72, rating of 0 to 2), compared with those highly likely to prescribe opioids (n=32, rating of 3 or 4). No significant demographic differences (gender, race, provider type, or practice site) were found. However, there was a trend (P=.10) for a higher proportion of attendings to be more likely to prescribe opioids (35.8%), than residents (22.7%) or NP/PAs (13.6%).

In the analysis of treatment problems and opioid issues, using t tests to compare mean rating scores on each item, providers less likely to prescribe opioids rated patient psychological factors as a significantly greater problem than those more likely to prescribe (2.91 vs 2.59, P=.019, ES=0.51), and reported a higher rating for "difficulty coordinating or adding on pain management/treatment" (2.38 vs 1.97, P=.03, ES=0.50). They also rated potential for patient addiction as more important in preventing opioid prescribing (M=2.72 vs 2.16, P=.004, ES=0.67). However, analysis of patient co-occuring psychosocial characteristics found a counter-intuitive association between likelihood of prescribing opioids and estimates of the percent of pain patients who had substance abuse histories (χ^2=4.64, P=.031). One-quarter of providers (25.8%) reporting higher likelihood of prescribing opioids indicated that greater than 50% of their patients with pain also had substance abuse histories, compared with 9.6% of providers less likely to prescribe.

To further understand correlates of high versus low likelihood of opioid prescribing, a logistic regression was conducted with provider type (attending vs others), and the 4 variables described above as significantly associated with opioid prescribing as independent variables. Four variables remained independently associated with likelihood of prescribing, 2 indicating increased likelihood and 2 indicating decreased likelihood: (1) provider type (attendings more likely to prescribe, odds ratio [OR]=5.3, P=.012; 95% confidence interval [CI]=1.4 to 19.3); (2) rating a higher percent of patients with substance abuse histories, OR=4.3, P=.013 (95% CI=1.4 to 13.8); (3) rating patient psychological factors as a greater problem, OR=0.36, P=.029 (95% CI=0.14 to 0.90); and (4) rating potential for patient addiction as more of an issue, OR=0.31, P=.002 (95% CI=0.15 to 0.64).

Satisfaction with Treatment and Training

Providers rated satisfaction with treating their patients with chronic pain as quite low (M=1.90, SD=0.81), on a scale

Table 1. Provider Ratings of Problems to Patient's Achieving Optimal Pain Control (N=111)

Problem	How Much do You Believe Each of the Following Problems Limit Your Ability to Achieve Optimal Pain Control for Your Patients with Chronic/Persistent Nonmaligant Pain Only (e.g., Low Back Pain)?		
	(0), (1) No at All or Rarely (%)	(2) Sometimes (%)	(3), (4) Frequently or Always (%)
Patient-related problems			
Patient self-management problems (e.g., time for relaxation, exercise, family responsibilities such as care for young children)	1.8	16.5	81.7
Patient psychological factors (e.g., depression, anxiety)	2.7	20.7	76.6
Patient compliance with treatment recommendations	9.0	37.8	53.1
Patient occupational factors (i.e., can not change jobs, can not make work accommodations)	9.9	45.9	44.1
Patient is invested in secondary gains of illness	13.6	54.5	31.8
Language barriers (e.g., patient's first language is different from provider's)	50.9	35.5	13.6
Provider and practice system problems			
Difficulty coordinating or adding on chronic pain management/treatment with management of other chronic diseases (e.g., diabetes, asthma, obesity)	17.1	41.4	41.4
Lack of evidence-based guidelines	25.2	37.8	36.9
Time/tracking systems for regular follow-up	26.4	45.1	28.4
Difficulty assessing pain levels	24.3	49.5	26.1
Time for a careful differential diagnosis	21.6	52.9	25.4

Table 2. Issues that Would Reduce/Prevent Willingness to Prescribe Opioids for Chronic Pain ($N=111$)

Issue	For Each of the Issues Listed Below, Indicate How Much Each One Might Prevent You From Initially Prescribing Opioid Medication to Patients with Chronic/Persistent Nonmaligant Pain Who Have not Responded to Other Measures		
	(0), (1) No or a Small Effect on my willingness to prescribe opioids (%)	(2) A Moderate Effect (%)	(3), (4) A Large Effect or Would prevent me from prescribing opioids (%)
Patient-related issues			
Potential for patients to become addicted to opioids	10.8	31.5	57.6
Potential for the patient to sell the opioid on the illegal market	25.4	35.5	30.1
Potential that patient may be targeted by illegal users to get patient's prescription	43.2	32.4	24.3
Side effects of opioids	46.8	47.7	5.4
Safety of opioids (e.g., respiratory depression)	72.0	22.5	5.4
Provider or practice system issues			
Unsure of appropriateness of opioids	39.6	31.5	28.8
Lack of systems to monitor patient compliance (e.g., contracts, blood/urine tests)	57.8	29.4	12.8
Regulatory/law enforcement monitoring of opioid prescribing	59.4	28.8	11.7
The hassle and time required to track and refill prescriptions	72.0	22.5	5.4

where 0 = not at all satisfied and 4 = very satisfied. However, a higher proportion (37.5%) of providers who rated themselves as more likely to prescribe opioids also rated themselves as highly satisfied with their pain care (satisfaction rating of 3 or 4), while only 16.7% of providers who were least likely to prescribe opioids rated themselves as highly satisfied ($P=.03$). On a scale of 0 = insufficient, 1 = adequate, 2 = good, and 3 = very good, the mean rating of chronic pain education for NP/PA programs was 0.5 (SD = 0.80), for medical school 0.35 (SD = 0.67), and for postgraduate medical education 0.7 (SD = 0.84). The majority of attending physicians rated their medical school education (81.5%), and residency training (54.7%), about chronic pain treatment as insufficient. Residents rated their undergraduate and graduate medical education on chronic pain as somewhat better, with less than half rating each as insufficient (47.6% and 42.1%, respectively).

CONCLUSIONS

Primary care providers in our study reported that over one-third of adult appointments in a typical week involved a patient with chronic pain. While this finding is not a true prevalence estimate, it does indicate that providers in community clinic settings encounter a large number of patients with chronic pain symptoms. At the same time, as reported in prior studies, providers in this study feel poorly prepared by their professional training for, and dissatisfied with, treating patients with chronic pain.[2,4,5]

Despite the unfavorable reports about pain education and low satisfaction with pain treatment, PCPs did not identify provider expertise and health system factors (e.g., difficulty of diagnosis, lack of evidence-based guidelines) as the most important obstacles to treating patients with chronic pain. Instead, patient compliance and behavioral factors were rated as more problematic. Thus, in addition to improving basic knowledge about chronic pain management, providers likely will also need training in patient-centered care approaches that address the compliance and behavioral problems they perceive as so problematic.

Finally, respondents did not identify law enforcement scrutiny as an important issue preventing opioid prescribing as other studies have reported.[1,2,4] Instead, rated more important were the risks of addiction, medication diversion, and targeting of patients by illegal users. Surprisingly, providers more willing to prescribe opioids also identified a larger proportion of the chronic pain population as having substance abuse histories. This finding could mean providers who prescribe opioids for chronic pain are more careful to take substance use histories, or understand substance use as a self-medicating avenue for patients to address their chronic pain. Nevertheless, further study is needed to determine the validity of these provider perceptions, their effect on opioid prescribing, and to assess the real risk of addiction in patients with chronic pain who are prescribed opioids in community settings.

Taken as a whole, the concerns about optimal chronic pain treatment in community clinic settings identified in this study support continuing calls for more provider education and practice change. This study has also identified that providers believe that patient behaviors are significant barriers to effective pain treatment. Thus, the findings suggest that provider education should focus on patient-centered approaches to managing chronic pain, and on addressing provider concerns about substance abuse and addiction.

The authors wish to thank Heidi Shah, MD; Nick Apostoleris, PhD, William Shaw, PhD, Robert I. Cohen, MD, Gonzalo Bacigalupe, EdD, and Gail Sawosik, MBA, for their assistance in survey design and implementation, and in manuscript review. In addition, many thanks are due to the providers and administrators of the participating clinical sites in Massachusetts: Barre Family Health Center, Barre; Community Health Connections, Fitchburg; Family Health Center, Worcester; Family Medicine University Campus, Worcester; Great Brook Valley Health Center, Worcester; Greater Lawrence Health Center, Lawrence;

Hahnemann Family Health Center, Worcester; Holyoke Health Center, Holyoke.

FUNDING: *Agency for Health Care Research and Quality 1 R03 HS013455-01A1.*

REFERENCES

1. **Green CR, Wheeler JRC, Marchant B, LaPorte F, Guerrero E.** Analysis of the physician variable in pain management. Pain Med. 2001;2:317–27.
2. **Librach SL.** Managing chronic pain in family practice. Can Fam Physician. 1993;39:539–44.
3. **Potter M, Schafer S, Gonzalez-Mendez E, Gjeltema K, Lopez A, Croughan-Minihane M.** Opioids for chronic nonmalignant pain: attitudes and practices of primary care physicians in the UCSG/Stanford Collaborative Research Network. J Fam Pract. 2001;50:145–51.
4. **Ponte CD, Johnson-Tribino J.** Attitudes and knowledge about pain: an assessment of West Virginia family physicians. Fam Med. 2005;37: 477–80.
5. **Bendsen P, Hensing G, Ebeling C, Schedin A.** What are the qualities of dilemmas experienced when prescribing opioids in general practice? Pain. 1999;82:89–96.
6. **Moulin ED, Clark AJ, Speechley M, Morley-Forster PK.** Chronic pain in Canada—prevalence, treatment, impact and the role of opioid analgesia. Pain Res Manag. 2002;7:170–73.
7. **Olsen Y, Daumit GL.** Opioid prescribing for chronic nonmalignant pain in primary care: challenges and solutions. Adv Psychosom Med. 2004;25:138–50.
8. **Clark JD.** Chronic pain prevalence and analgesic prescribing in a general medical population. J Pain Symptom Manage. 2002;23:131–7.
9. **Green CR, Anderson KO, Baker TA, et al.** The unequal burden of pain: confronting racial and ethnic disparities in pain. Pain Med. 2003;4: 277–294.
10. **Ng B, Dimsdale JE, Rollnik JD, Shapiro H.** The effect of ethnicity on prescriptions for patient-controlled analgesia for post-operative pain. Pain. 1996;66:9–12.
11. **Edwards CL, Fillingim RB, Keefe F.** Race, ethnicity and pain. Pain. 2001;94:133–7.
12. **Edwards RR, Doleys DM, Fillingim RB, Lowery D.** Ethnic differences in pain tolerance: clinical implications in a chronic pain population. Psychosom Med. 2001;63:316–23.
13. **Won A, Lapan K, Gambassi G, Bernabei R, Mor V, Lipsitz LA.** Correlates and management of nonmalignant pain in the nursing home. J Am Gerontol Soc. 1999;47:936–42.
14. **Dominick KL, Dudley TK, Grambow SC, et al.** Racial differences in health care utilization among patients with osteoarthritis. J Rheumatol. 2003;30:2201–6.
15. **Tamayo-Sarver JH, Dawson NV, Hinze SW, et al.** The effect of race/ethnicity and desirable social characteristics on physician's decisions to prescribe opioid analgesics. Acad Emerg Med. 2003;10:1239–48.