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Acute Pain Management

Programs in U.S. Hospitals and Experiences and Attitudes among U.S. Adults

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Background: The objective of the survey was to assess the status of acute pain management in U.S. hospitals and attitudes of adults in the U.S. toward postoperative pain management, information that has not been previously available.

Methods: Two telephone questionnaire surveys were conducted. U.S. hospital participants, including 100 teaching hospitals (acute care hospitals with a residency program and/or university affiliation), 100 nonteaching (community) hospitals with fewer than 200 beds, and 100 nonteaching (community) hospitals with 200 beds or more were interviewed regarding current and future pain management programs and related topics. Adult participants in 500 U.S. households were interviewed on attitudes and experiences with postoperative pain and its management.

Results: Forty-two percent of the hospitals have acute pain management programs, and an additional 13% have plans to establish an acute pain management program. Seventy-seven percent of adults believe that it is necessary to experience some pain after surgery. Fifty-seven percent of those who had surgery cited concern about pain after surgery as their primary fear experienced before surgery. Seventy-seven percent

of adults reported pain after surgery, with 80% of these experiencing moderate to extreme pain.

Conclusions: Despite a growing trend in pain management, increased professional and public awareness including the establishment of pain management programs and public and patient education is needed to reduce the incidence and severity of postoperative pain. (Key words: Acute pain management. Adults: attitudes; experiences. Hospitals: programs.)

AN estimated 23.9 million surgical procedures were performed in the United States in 1992.‡ Most of these procedures involved some form of pain management, yet up to 75% or more of postoperative patients experienced unrelieved pain because of undermedication,¹⁻³ with some patients receiving as little as one-quarter of the medication prescribed.^{2,3,§}

Despite the prevalence of significant pain, patients often reported satisfaction with their postoperative pain relief, citing that they expected pain after surgery, that the pain was less than they anticipated, that the pain eventually would lessen, and that they knew why the pain existed.⁴

In 1992, the Agency for Health Care Policy and Research (AHCPR), U.S. Department of Health and Human Services, issued guidelines, *Acute Pain Management: Operative or Medical Procedures and Trauma, Clinical Practice Guideline*. These guidelines recognized the widespread inadequacy of pain management and noted that unrelieved postoperative pain contributes to patient discomfort, longer recovery periods, and higher health-care costs.||

The four major goals of the guidelines (which addressed the care of patients with acute pain after surgery, medical procedures, and trauma) were to reduce the incidence and severity of patients' acute postoperative or posttraumatic pain, educate patients about the need to communicate unrelieved pain to receive prompt evaluation and effective treatment, enhance patient comfort and satisfaction, and reduce the incidence of postoperative complications.

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‡ American Hospital Association 1993-94 Hospital Statistics. Chicago, American Hospital Association, 1993.

§ Oden RV: Acute postoperative pain: Incidence, severity and the etiology of inadequate treatment. *Anesthesiology Clinics of North America* 7:1-14, 1989.

|| Acute Pain Management Guideline Panel: Acute Pain Management: Operative or Medical Procedures and Trauma, Clinical Practice Guideline. AHCPR publication 92-0032. Rockville, Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services, 1992.

Although listings of pain management facilities and training fellowships are available as a result of member surveys by the American Pain Society, the American Society of Regional Anesthesia, and the International Association for the Study of Pain,[#] the overall status of pain management programs in community and teaching hospitals has not been evaluated.

To assess the status of acute pain management in the nation's hospitals and the attitudes of adults, we conducted a telephone survey with random samples of U.S. hospitals and adults 1 yr after the AHCPR guidelines were released.

This information may help determine the influence of the AHCPR guidelines on the development of pain management programs and adults' attitudes about and experiences with postoperative pain, help identify areas requiring increased professional and public awareness, and serve as a base to trace the effectiveness of further developments in the relief of acute pain.

Methods and Materials

Participants

Two surveys were conducted.** In the first, a sample of 300 U.S. hospitals, including 100 teaching hospitals, 100 nonteaching hospitals with fewer than 200 beds, and 100 nonteaching hospitals with 200 beds or more was randomly selected from a complete list of all teaching and community hospitals in the 48 contiguous states. The survey interviewers telephoned hospitals and asked to speak with the physician in charge of the hospital's pain management program. If there was no physician so designated at a given hospital, the chief of anesthesiology was interviewed.

To obtain the sample of 300 hospitals, 557 hospitals were screened, for a participation and qualification ratio of 1.85:1.

In the second survey, random-digit dialing was used to interview 500 male or female U.S. heads of households. To obtain a sample of 500 adults, 1,800 adults were screened, for a participation and qualification ra-

tio of 3.6:1. Sampling was adjusted so that an equal number of male and female adults completed the questionnaire.

Questionnaire

In the hospital survey, participants (pain management directors and/or chiefs of anesthesiology) were asked 36 questions related to the status of current and future acute pain management programs. Related interview questions focused on the goals and services of the hospitals' pain management programs and tools used for pain assessment. The hospital participants were surveyed about familiarity with the AHCPR guidelines on acute pain management.

In the survey of U.S. households, adult participants were asked 36 questions concerning their attitudes and experiences with postoperative pain and its management. Interview questions addressed pain medications, side effects, and non-drug treatments.

Results

Hospital Participants

Prevalence and Types of Programs. Of the pain management directors and/or chiefs of anesthesiology surveyed in 300 U.S. hospitals, 137 (46%) reported they had established a formal pain management program or service with written guidelines, policies, or procedures to manage patients' pain.

Of these, 126 (92%), or 42% of the 300 hospitals surveyed, reported that acute postoperative pain management was a component of the program. Ninety-three percent of programs included chronic pain management, 79% included cancer pain management, and 78% included the management of acute pain not related to surgery.

Twenty-two percent of the remaining 174 hospitals (13% of all hospitals surveyed) reported future plans to implement a formal acute pain management program; of these, 47% planned to establish a program in 1994. Teaching hospitals reported more (58%) pain management programs than did community hospitals (39%).

Program Initiation/Duration. Sixty-seven percent of the hospitals' acute pain management programs were created during the past 5 yr, 31% during the past 2 yr, and 17% in the past year. Of the 300 hospitals surveyed, 243 (81%) of the pain management directors and/or chiefs of anesthesiology re-

Directory of Pain Management Facilities, American Pain Society, American Academy of Pain Medicine, 1989; Pain Management Fellowship Opportunities, American Society of Regional Anesthesia, 1992; Training Opportunities in Pain, International Association for the Study of Pain, 1990.

** A copy of the survey questions for hospitals and participants is available from the authors upon request.

ported the trend that pain management consultation is increasing in incidence.

Primary Goals. Respondents were given the opportunity to select one or more items as primary goals of their pain management program. Controlling postoperative pain was cited as a primary goal by 92% of respondents. Reducing the length of hospital stays was considered another primary goal by 90% of respondents. Other goals cited included reducing adverse postoperative effects of pain (85%) and controlling nonsurgical acute pain (82%).

Services and Components. The services of the acute pain management programs surveyed included: patient-controlled analgesia (95%), consultation (92%), direct patient management (91%), continuous nerve block techniques (86%), and intraspinal opioids (86%).

Of the 164 hospitals that currently have or are planning an acute pain management program, components of the program include or will include: written guidelines (96%), quality assurance measures (96%), on-call personnel (90%), standards for prescribing postoperative pain management (88%), continuing medical education for professionals (87%), written goals and objectives for postoperative pain management (82%), a pain assessment sheet or other pain measurement tool (84%), a list of available pain management medications and non-drug treatments with guidelines for their use (72%), and a list of procedures requiring postoperative pain management (53%).

Staff. According to survey respondents, 80% of the hospital acute pain management programs were headed by anesthesiologists, and 94% reported an anesthesiologist as a member of the pain management team.

Other professionals likely to be involved in acute pain management include nurses (on 89% of pain management teams), pharmacists (on 68%), and surgeons (on 47%).

More than half (57%) of all 300 hospitals surveyed provide counseling for patients regarding acute pain management. This includes a discussion of the various options available. Of these, 78% (134 hospitals) were reported to use a verbal numeric rating scale for pain assessment, 41% (71 hospitals) a visual analog scale, and 31% (53 hospitals) an adjective rating scale. Sixty-seven percent of the hospitals said they included effective pain management as a quality assurance measure.

AHCPR Guidelines. Two-hundred thirty (77%) of the survey respondents had heard of or were familiar

with the AHCPR clinical practice guidelines on acute pain management, although only 42 (14%) responded that they were familiar with the guidelines, and less than half (48%) reported having a copy of the guidelines in the hospital. Seventy-five (25%) of the hospitals were somewhat familiar with the guidelines, 59 (20%) were only slightly familiar, and 54 (18%) had only heard of the guidelines. Nineteen percent of the pain management directors and/or chiefs of anesthesiology who were familiar with the guidelines indicated that the guidelines had influenced their hospital's pain management program. An additional 32% expected the guidelines to influence their pain management program in the future.

Adult Participants

In the study of U.S. households, more than one-quarter (27%) of the 500 U.S. adults surveyed had undergone a surgical procedure during the past 5 yr. Of these, 55% had the surgery in a hospital as an inpatient, 31% in a hospital as an outpatient, 9% in a doctor's office, and 3% in an outpatient clinic or free-standing surgical center.

The majority (57%) of patients who had surgery reported that their primary concern before surgery was the pain they might experience afterward.

Other concerns included whether the surgery would improve their condition (51%), whether they would fully recover from the surgery (42%), that they might experience pain during surgery (34%), and how they would be treated by the doctors, nurses, and other health-care professionals (30%).

Three in four (77%) adults reported pain after surgery. In describing the highest degree of pain experienced, 19% noted slight pain, 49% moderate pain, 23% severe pain, and 8% extreme pain.

Seventy-one percent received pain medication during the 2 weeks postoperatively; 32% of these reported the pain medication they received was acetaminophen with codeine. Forty-five percent did not know or could not recall the type of medication(s) received, but the majority (84%) recalled receiving the medication orally. Half (50%) did not know if the medication was opioid or nonopioid.

Nearly three-quarters (71%) said they experienced pain even after receiving their first dose of medication. Eighty percent reported that they received pain medication on time, although one-third had to ask for the medication, and 16% had to wait for medication. Thir-

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teen percent used a patient-controlled analgesia intravenous pump.

Almost one-fourth (23%) of surgical patients experienced symptoms compatible with pain medication side effects, including drowsiness (32%), nausea (32%), constipation (9%), dizziness, confusion, sleeplessness, or mood changes (5%).

Forty-six percent received non-drug treatments for pain, including exercise (28%), application of cold (18%), application of heat (16%), relaxation techniques (9%), massage (7%), transcutaneous electrical nerve stimulation (3%), and biofeedback techniques (1%).

Only about half (53%) of the surgical patients were counseled about postoperative pain. This was performed by a surgeon (60%), nurse (32%), anesthesiologist (21%), other type of physician (15%), and/or social worker (1%) before their surgery.

Of the 500 adults surveyed, 77% said they believe it is necessary to experience some pain after surgery, and 4% reported having refused or postponed surgery because of the fear of experiencing pain. The majority (71%) of the adults would prefer a nonopioid to an opioid analgesic after surgery. Almost all (93%) adults said they believe it is acceptable for patients to complain about pain after surgery.

Discussion

The survey of hospital participants indicates that formal pain management programs are becoming more prevalent in the nation's hospitals, with 42% of hospitals having active programs to manage acute pain and an additional 13% planning to implement such programs.

A majority of hospital participants noted a trend toward more aggressive pain management. That most of the acute pain management programs were established during the past 5 yr supports this contention.

The goals and services of acute pain management programs mentioned by survey respondents indicate that care-givers are recognizing that adequate pain control can not only enhance patient comfort but speed recovery and contain health-care costs. This is further supported by the finding that 57% of all hospitals surveyed, including those without formal pain management programs, have programs to discuss acute pain management with patients.

Anesthesiologists headed pain management programs in 80% of the hospitals surveyed. An anesthesiologist was a member of the pain management team in 94% of the programs. These results indicate the vital role anesthesiologists play in pain management. We postulate this is due to their interest in the management and understanding of pain, expertise in regional blockade, and knowledge of the pharmacology of analgesics. Other professionals most likely to be involved in pain management included nurses, pharmacists, and surgeons, testifying to the value of the collaborative, interdisciplinary team approach to pain control.

Although the majority of the hospital respondents said they were familiar with the AHCPR guidelines, fewer than half reported having a copy of the guidelines in their hospital, and 19% said that the guidelines had influenced their pain management programs. The results indicate that, although overall awareness of the government recommendations is high, the knowledge may be superficial. To date, the guidelines appear to have influenced only a small percentage of hospital pain management programs.

Although the AHCPR guidelines may have increased professional awareness of pain management, they have not yet increased public awareness. The survey of adults who had undergone surgery found that the majority believe pain is a necessary accompaniment of surgical procedures despite the guidelines' statement that pain should be prophylactically prevented and aggressively treated. More than half of the adults reported that their primary fear in facing surgery was the pain they might experience postoperatively.

Respondents' anxiety about pain may be related to the fact that many surgical patients do not receive adequate pain relief, as documented in the AHCPR guidelines. Survey results support this conclusion, with 77% of the adults who had undergone surgery reporting they had pain after surgery, and 80% reporting they experienced moderate to extreme pain. Almost three-quarters of the respondents continued to experience pain after receiving pain medication.

Despite clear trends toward an increased awareness of the need for pain management and the establishment of pain management programs, patients continue to suffer pain postoperatively and fear pain above all else when facing surgery. More than half of the nation's hospitals have yet to establish an acute pain management program, and fewer than one in five have been influenced by the AHCPR guidelines that advocate a

formal, institutional approach to the management of acute pain.

To reduce the incidence and severity of acute postoperative pain, increased awareness among both professionals and the general public is necessary, along with the establishment of acute pain management programs and aggressive public and patient education programs.

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