The multidisciplinary pain management team is the optimal method for delivery of comprehensive treatment to patients in pain. The biopsychosocial model of pain considers multiple factors for assessment, diagnosis, and treatment of pain. A structured approach to nonpharmacologic pain management includes medical and psychological interventions to educate and to empower patients to manage pain. Relaxation training, biofeedback, hypnosis, imagery, and cognitive-behavioral therapy are nonpharmacologic treatment modalities recommended by multidisciplinary pain management teams for effective pain control.

(Key words: biofeedback, cognitive-behavioral therapy, hypnosis, imagery, nonpharmacologic pain management, relaxation training, stress response)

Pain, a universal stress encounter, fosters more than 80% of visits to physicians and accounts for more than $75 billion in healthcare costs. The financial loss for US worker productivity is staggering. Pain is often associated with postsurgical distress and with posttraumatic injuries that result in non–cancer-related chronic pain for an estimated 9% of the US adult population.1 Although pain has been viewed as an independent mechanism and was not the major focus of attention for clinicians or researchers, it is now recognized to be a complex issue and an integral part of a stress response. Recently, both the American Osteopathic Association Healthcare Facilities Accreditation Program (HFAP) (Table 1)2 and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) established guidelines for management of pain (Table 2). The HFAP standards promote a multidisciplinary approach and provide that patients be informed of the right to have pain treated as effectively as possible. The HFAP policies and procedures include assessment of pain management and goals for monitoring treatment using a visual scale. The JCAHO guidelines mandate that pain be addressed for “good medicine” to prevail. The JCAHO guidelines also promote a multidisciplinary approach to pain management that includes implementation of nonpharmacologic methods.3

The biopsychosocial model

The basic concept of a biopsychosocial model of pain includes complete understanding of pain, with no single factor in isolation. Biological (physical), psychological (emotional, cognitive, and...
behavioral), and social (interactions with others) factors must be incorporated for assessment, diagnosis, and treatment. All of us may experience similar pain sensations, that is, the mental awareness of an unpleasant stimulus associated with injury or illness. However, each of us manifests a very different pain experience, that is, the total subjective experience of pain associated with injury or illness. Although psychosocial factors should be considered in both patients with acute pain and patients with chronic pain, these factors are more influential for the latter patients.

Sensory factors are the physical sensations of pain experienced in four dimensions: location, intensity, quality, and duration. Emotional factors comprise those feelings that directly accompany a pain experience, as well as the effect of that experience on one’s life. These emotions may be strong and have an influence on a patient’s ability to adequately report pain and, consequently, a healthcare professional’s ability to optimally treat the patient for pain. Cognitive factors include awareness, memory, and expectations regarding a pain experience; they influence the patient’s perception, decision making, coping ability, and self-efficacy relative to this pain experience. Behavioral factors include any physical activities of a patient in response to pain, for example, exercise, sleep, avoidance of work, and/or household chores. Environmental factors include physical conditions that affect awareness of pain, for example, material and financial resources, housing, transportation, and weather. Social factors are influences of all individuals (eg, family, friends, healthcare professionals, employers, disability representatives) who affect—and are affected by—the patient’s pain experience.

These factors clearly indicate that pain perception and response are complex interrelated phenomena expressed by the “gate control theory.”4 This hypothesis suggests that the central nervous system acts as a physiologic basis for the role of psychological factors in the pain experience. Within the spinal cord, sensory input is modified by neural mechanisms of the dorsal horn; this region acts as a hypothetical gate that inhibits or facilitates transmission of nerve impulses from peripheral sites to the brain. This process inhibits nociceptive signals, closes the gate, and decreases pain; alternatively, it facilitates transmission, opens the gate, and increases pain. Thus, sensory, affective, and evaluative components of pain all play a part in modulating nociceptive signals.

Factors that control (open/close) the gate are physical, emotional, and cognitive. Opening the gate—and facilitating transmission of pain—may be initiated by physical factors such as the nature or extent of an injury or illness, or an inappropriate type and/or pacing of an activity (eg, excessive exercise, housecleaning, lifting, or bending), and emotional factors that include depression, anxiety, worry, tension, and/or anger. Cognitive factors increasing pain may be a focused attention on the pain, boredom, external locus of control (or surrendering to external forces controlling the pain), and low self-efficacy (patient believes that he or she can do nothing to manage the pain). Factors that close the gate and decrease pain may also be

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<td>American Osteopathic Association/Healthcare Facilities Accreditation Program Standards on Pain Management</td>
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<td><strong>Standard</strong></td>
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<tr>
<td>Quality assessment-improvement</td>
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<td>Discharge summary</td>
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<td>Nursing department</td>
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emotional (relaxation techniques, stress management, controlling negative emotions, balancing work and play, involvement in something the patient enjoys); and
- cognitive (development of distraction techniques and coping strategies, creating an internal locus of control [helping patients learn to use internal resources to control their pain], increasing self-efficacy through practice and proof [helping the patients actually achieve success in managing their pain]).

The multidisciplinary pain management team
Members of a multidisciplinary team for pain management include a physician, psychologist, nurse, support staff, the patient, and the patient’s family. A 2- to 3-hour intake assessment should be scheduled during which a physician and a psychologist will evaluate the patient, verbalize a working diagnosis, and then meet as a treatment team to coordinate the components of a specific multidisciplinary treatment program. A patient who is presented with such a plan is more likely to view a pain problem as an integral complex mechanism opposed to thinking “the pain is all in my head.” It is likely that patients in pain may have this thought if they have been met with healthcare professionals who have inadequately responded to the complex pain experience.

Indeed, there is more evidence for a positive outcome when healthcare professionals believe pain is multidimensional, recognize psychosocial interventions as important as medical interventions, and view patients as capable of change. Clinicians who promote positive outcomes view themselves as facilitators for pain management rather than as prescriptive agents, whose responsibility may end with surgery or appropriate medication. If healthcare professionals act according to these beliefs, they develop treatment options that address all components of pain and will include patients as active team members capable of implementing recommendations through information, education, and collaboration. This type of process will help a “team” consider the patient’s strengths, biases, and expectations of pain instead of only the physical factors. It will also enable a team to set treatment goals for pain management which optimize those strengths by minimizing the risk of psychological factors.

Structured approach
A multidisciplinary team begins with a thorough assessment to discover primary causes of pain problems. After evaluation, a physician may consider an alternative medical intervention or decide to maintain current therapy. A psychologist may then proceed with a clinical interview specifically designed to assess a patient’s pain experience. Basic elements should include: pain history; present pain (intensity, duration, quality, severity); past and present pain medications; pain behaviors; previous strategies (successes and failures) to address the complaint of pain; psychosocial history; work behavior; current stressors; quality of relationships; expectations and beliefs regarding the pain experience; activity levels; motivation for functional restoration; and a mental status examination.

Many assessment measures based on the biopsychosocial model to evaluate pain are available (Figure).

In a structured approach to nonpharmacologic control of pain, the healthcare professional has a responsibility to inform and empower patients and to consider their respective reports of hopelessness, suicidal ideation, anxiety, depression, and quality of life. Analgesic drugs can lower the intensity of pain, but they do not change the total pain experience. With medication, the patient may have relief of physical pain sensations; however, the emotional, cognitive, behavioral, environmental, and social factors of the pain experience continue to cause distress. The patient may be offered additions and alternatives to pharmacotherapy which include behavior therapy and cognitive-behavioral strategies to manage pain.

Behavior therapy
In pain management, behavior therapy serves to focus a patient’s attention to exercise control in decreasing symp-
A multidisciplinary approach to nonpharmacologic pain management

Jacobsen techniques (tension-release exercises) is often used for patients with chronic pain. Patients are often surprised in the early treatment stages that these simple techniques will promote novel feelings of relaxation.

Biofeedback training for a patient in pain, a common procedure used by therapists, monitors bodily responses (muscle tension, surface skin temperature, heart rate, blood flow) and provides auditory (tone) and/or visual (computer) feedback to the patient, in the hope that the patient will learn to control these physiologic responses. Generally, a patient will relax, thus decreasing sympathetic arousal and increasing pain thresholds.

Hypnosis and imagery are agreed to be "states of highly focused attention during which alteration of sensations, awareness and perception can occur." Hypnosis has been an effective technique for helping patients in acute pain associated with burns, dental work, and uncomfortable medical procedures. Meditation (which focuses one's awareness on bodily sensations, breathing, or repetition of a mantra can help a patient reduce negative cognitions and anxiety related to the pain condition. Often, patients report a decrease in pain and anxiety and an increased sense of control over their pain experience. These behavioral techniques are introduced at the beginning of nonpharmacologic pain management and are enhanced by cognitive approaches to further control negative thoughts associated with pain.

Relaxation training can reduce pain by decreasing muscle tension, distracting the patient from pain, and increasing the patient’s self-efficacy for coping with pain. Diaphragmatic breathing is a simple technique in which the patient learns to breathe by expanding the lungs fully, while keeping the shoulders and chest relaxed, allowing the abdomen to expand. Progressive muscle relaxation is a strategy used for many years, illustrating that large muscle groups could be relaxed to decrease muscle tension. Today, an abbreviated version of the Jacobsen techniques (tension-release exercises) is often used for patients with chronic pain. Patients are often surprised in the early treatment stages that these simple techniques will promote novel feelings of relaxation.

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Cognitive-behavioral therapy

The American Psychological Association recognizes cognitive-behavioral therapy (CBT) as an empirically supported intervention in management of chronic pain. Its foundation is the gate control theory integrating the sensory, affective, and cognitive components of pain. Numerous resources are available for CBT for patients in pain. Cognitive processes are thoughts, self-statements, or evaluations about the pain and beliefs, interpretations, or attributions regarding this condition. A patient in pain draws meaning from past painful sensory experiences that form a knowledge structure or schema. These schemata often contain incorrect beliefs based on cognitive errors, and such patterns can cause negative thinking about the current problem. For example, “Mary” may recall the last time she took a walk with her husband, she walked about 1 mile, and for the next 3 days, the pain was so severe she was unable to do anything. She forms the belief, “every time I exercise, I am in pain, so why even try?” Negative thoughts can be identified in the domain of self (I can’t do anything, I am worthless), personal world (I can’t enjoy any activity with my husband; he should divorce me), and future (I will never be free of pain. Life is just not worth living). These thoughts produce anger, worry, despair, and perceived lack of control. Cognitive-behavioral therapy is based on the assumption that patients will enter treatment with the belief that their pain problem is unmanageable, and this belief becomes a target of change.

The goals of CBT are to help patients develop an expectation that they can learn to manage their pain and to provide them with skills to respond effectively to current conditions associated with pain and to those conditions that may arise after termination of treatment. “Mary” needs to be educated to the influence of physical, emotional, and cognitive factors of her pain experience. Appropriate activity pacing, relaxation techniques, and stress management should be initiated. Her negative thinking may be challenged by various cognitive techniques including cognitive disputations, questioning the evidence, functional alternative explanations, decatastrophizing, and distraction.

These methods will help this patient become more educated regarding her pain experience, acquire skills to manage the pain, use cognitive-behavioral rehearsal to change negative thinking and to generalize and maintain these changes.

Comment

Pain is a complex mechanism that involves all associated biopsychosocial factors. It is a universal experience that may result in overutilization of healthcare, loss of productivity, and diminished quality of life for affected patients. A multidisciplinary approach to pain management enables a patient to recognize psychological and medical modes of therapy as equally important. Inclusion of nonpharmacologic interventions will treat...
sensory, affective, and cognitive components of a patient’s pain experience. This multidisciplinary approach will help dismiss the patient’s belief that “the pain is all in my head” and will lead to enhanced quality of life.

References


