

Health Psychology, 6th edition
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Chapter Ten:
Pain and its Management

The Significance of Pain

- Obvious significance
 - Pain hurts and so it disrupts our lives
- Pain is critical for survival
 - Minor pains provide low-level feedback
 - Shift posture, uncross legs
 - Roll over when asleep
- Medical consequences
 - Pain is the symptom most likely to lead an individual to seek treatment

The Significance of Pain

- Psychological significance
 - Depression and anxiety worsen the experience of pain
 - Patients fear pain when undergoing treatments
 - Inadequate relief from pain is the most common reason for euthanasia requests

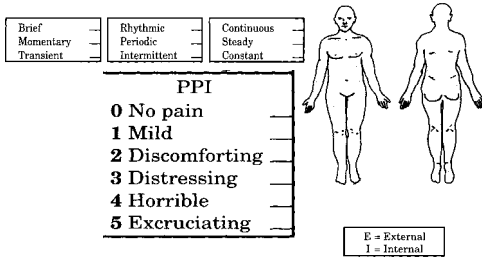
The Elusive Nature of Pain: Overview

- Pain is a psychological experience
- Interpretation of the pain influences
 - The degree to which it is felt
 - How incapacitating it is
- Beecher's study of WWII injuries
 - To soldiers, pain means, "I'm alive"
 - To civilians it interrupts activities
- Pain is influenced by
 - Context, culture, and gender

The Elusive Nature of Pain: Measuring Pain - Verbal Reports

- Large informal vocabulary
 - Throbbing pain? Shooting pain? Dull ache?
- Questionnaires
 - Nature of pain (throbbing, shooting, dull)
 - Intensity of pain
 - Psychosocial components
 - Fear
 - Degree to which it has been catastrophized

McGill Pain Questionnaire: Examples from Figure 10.1



The Elusive Nature of Pain:
Measuring Pain - Verbal Reports

- Pain Behaviors are behaviors that arise as manifestations of chronic pain
 - Distorted gait or posture
 - Facial/audible expressions of distress
 - Avoidance of activities
- Pain Behaviors are observable
 - Help define characteristics of different pain syndromes

The Elusive Nature of Pain:
Physiology of Pain

- Pain *is* protective
 - Brings into consciousness the awareness of tissue damage
- Pain doesn't *feel* protective
 - It is accompanied by motivational and behavioral responses
 - Crying
 - Fear
 - Withdrawal

The Elusive Nature of Pain:
Physiology of Pain

- Pain perception is called **Nociception**
- Three kinds of pain perception
 - Mechanical nociception
 - Mechanical damage to body tissue
 - Thermal nociception
 - Damage due to temperature exposure
 - Polymodal nociception
 - General category
 - Pain triggers chemical reactions from tissue damage

**The Elusive Nature of Pain:
Physiology of Pain**

- Nociceptors in peripheral nerves first sense injury
- In response, release chemical messengers which travel to spinal cord and brain
- Brain regions identify the site of the injury and send messages back down spinal column
- Leads to muscle contractions, helps block pain
- Changes in other bodily functions, such as breathing

**The Elusive Nature of Pain:
Physiology of Pain**

- Two major types of peripheral nerve fibers
 - A-delta fibers – small, myelinated fibers that transmit sharp pain
 - C-fibers – unmyelinated fibers transmit dull, aching pain

**The Elusive Nature of Pain:
Neurochemical Bases of Pain**

- Landmark Study: D. V. Reynolds 1969
- SPA: Stimulation-Produced Analgesia
- Electrical stimulation of a rat's brain produced a high level of analgesia
 - The rat did not feel the pain of surgery
- Conclusion: The brain can control the amount of pain experienced

The Elusive Nature of Pain:
Neurochemical Bases of Pain

How can the brain have this effect?

- 1972: Endogenous opioid peptides are discovered
- Opioids are substances like heroin or morphine, but they are produced by the body
- These substances constitute an internal pain-regulation system

The Elusive Nature of Pain:
Box 10.2 Phantom Limb Pain

- Nerve injuries of the shoulder
 - More common due to motorcycle accidents
- Case Study: C. A.
 - No sensation in his paralyzed right arm which hung limp at his side
 - But a “phantom” arm was felt across his chest with nails digging into his palms

Clinical Issues in Pain Management:
Acute Pain

- Typically results from a specific injury
 - Wound or broken limb
- Disappears when damaged tissue is repaired
- By definition, acute pain goes on for six months or less
- During acute pain, there is an urgent search for relief

**Clinical Issues in Pain Management:
Chronic Pain**

- **Chronic Pain**
 - Typically begins with an acute episode
 - Pain does not decrease with treatment
 - Pain does not decrease as time passes
- **Three types of chronic pain**
 - Chronic benign pain
 - Recurrent acute pain
 - Chronic progressive pain

**Clinical Issues in Pain Management:
Chronic Pain**

- **Chronic benign pain**
 - Persists more than 6 months
 - Varies in severity
 - Example: Chronic low back pain
- **Recurrent acute pain**
 - Intermittent episodes of acute pain
 - Chronic because the condition lasts more than 6 months
 - Example: Migraine headaches

**Clinical Issues in Pain Management:
Chronic Pain**

- **Chronic progressive pain**
 - Increases in severity over time
 - Persists longer than 6 months
 - Typically associated with malignancies or with degenerative disorders
 - Example: Rheumatoid arthritis

**Clinical Issues in Pain Management:
Acute vs. Chronic Pain**

- Acute and chronic pain present different psychological profiles
 - Chronic pain often produces depression
 - Pain present in 2/3 of patients seeking care from physicians with primary symptoms of depression (Bair et al)
- Pain control techniques work well with acute pain but less successfully with chronic pain
- Chronic pain involves more secondary gain

**Clinical Issues in Pain Management:
Who Become a Chronic Pain Patient?**

- All chronic pain patients were once acute pain patients
 - Patients for whom pain interferes with life activities make the transition to chronic pain
- Chronic pain may result from a predisposition to respond to a bodily insult with a specified bodily response

**Clinical Issues in Pain Management:
Lifestyle and Relationships**

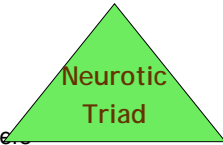
- Lifestyle of chronic pain
 - Can entirely disrupt a person's life
 - Little social or recreational life
 - Difficulty performing simple tasks
 - Goals are set aside; self esteem suffers
- Toll on relationships
 - Communication is inadequate
 - Sexual relationships deteriorate
- Chronic pain behaviors emerge

Clinical Issues in Pain Management: Pain and Personality

- Pain-Prone Personality
 - Constellation of personality traits predisposing a person to experience chronic pain
- This hypothesis is simplistic because
 - Pain alters personality
 - Individual experiences of pain are too complex to be explained by a single personality profile

Clinical Issues in Pain Management: Pain and Personality

- Profiles of Pain Patients
- MMPI – Chronic pain patients show elevated scores on
 - Hypochondriasis subscale
 - Hysteria subscale
 - Depression subscale
- Patients with neurotic disorders also score high on these 3 factors



Pain Control Techniques: Overview

- Pain control can mean a person
 - No longer feels anything in an area that once hurt
 - Feels sensation but not pain
 - Feels pain but is no longer concerned about it
 - Is hurting but is able to stand it

Pain Control Techniques: Pharmacological Control of Pain



- Most common method of controlling pain – through drugs
 - Morphine has been the most popular painkiller for decades
- Any drug that influences neural transmission is a candidate for pain relief
 - Main concern with using drugs: Potential for addiction
 - This threat is lower than once thought

Pain Control Techniques: Surgical Control of Pain

- Cutting pain fibers at various points so pain sensations can't be conducted
 - Effects are often short-lived
 - Regenerative powers of the nervous system mean that blocked pain impulses reach the brain through different neural pathways

Pain Control Techniques: Sensory Control of Pain

- Counterirritation
 - Inhibiting pain in one part of the body by stimulating or mildly irritating another area
 - Example:
Scratching a part of the body near the part that hurts
- Dorsal Column Stimulation
 - Electrodes near the nerve fibers from the painful area deliver a mild electrical stimulus, thus inhibiting pain

Pain Control Techniques: Biofeedback

- A method whereby an individual is provided with
 - Ongoing specific information about a particular physiological process by a machine
 - So that s/he can learn how to modify that process
- Once patients can control this process, they can usually make the changes on their own without the machine

Pain Control Techniques: Relaxation

- Relaxation techniques
 - Enable patients to cope with stress and anxiety, reducing pain
- What is relaxing?
 - A person shifts his/her body into a low state of arousal
 - Progressively relaxing different parts of the body
 - Controlled breathing using long, deep breaths
 - Meditation – focusing attention fully on a very simply, unchanging stimulus

Pain Control Techniques: Hypnosis

- An old and misunderstood technique
- How does it work?
 - Hypnosis involves relaxation, reinterpretation, distraction, and drugs
- Hypnotherapy has successfully controlled
 - Irritable bowel syndrome
 - Acute pain due to surgery, childbirth, dental procedures, burns, headaches
 - Pain due to laboratory procedures
 - Chronic pain, such as pain due to cancer

Pain Control Techniques: Acupuncture

- Technique of healing developed in China over 2,000 years ago
- Long, thin needles are inserted into designated areas of the body
 - To reduce discomfort in a target area of the body
- How acupuncture controls pain is unknown
 - Sensory method?
 - Expectations? Relaxation?
 - Endorphins released?

Pain Control Techniques: Distraction

- Attention is redirected in order to reduce pain
 - May involve focusing on some stimulus irrelevant to the pain
 - Example: Saying the Pledge of Allegiance backwards while the dentist drills
 - May involve reinterpreting the pain experience
 - Example: I'm a secret agent and the dentist is trying to get me to reveal secrets!
- Effective for acute pain and low-level pain

Pain Control Techniques: Coping Techniques

- Coping skills training is used to help chronic pain patients manage pain
- Is any particular coping technique more effective for managing pain?
 - It depends on how long the patient has had the pain
 - Recent Onset: Avoidant styles work
 - Chronic Pain: Attending directly to the pain is effective

**Pain Control Techniques:
Guided Imagery**

- Person conjures up a picture and holds it in mind during painful experiences
 - Used to induce relaxation
 - Controls slow-rising pains
- May be used as aggressive imagery
 - Chemotherapy treatment was a cannon blasting the “cancer dragon” apart
- What does guided imagery do?
 - Relaxing or aggressive imagery both induce positive mood states (relaxation or excitement)

**Pain Control Techniques:
Additional Cognitive Techniques**

- Reconceptualize the problem from overwhelming to manageable
- Enhance expectations that this training will be successful
- Client’s role is to be active, resourceful, and competent (not passive)
- Clients monitor maladaptive cognitions and stop negative self-talk

**Pain Control Techniques:
Additional Cognitive Techniques**

- How and when to employ overt and covert behaviors that are adaptive responses to pain
 - Example: Biofeedback
 - Example: Relaxation
- Attributions
 - Success is due to the client’s own efforts
- Relapse prevention is a part of pain control

Pain Management Programs: Initial Evaluation

- Assessment of the pain
 - Location
 - Sensory qualities
 - Severity
 - Duration
 - Onset
 - History
- Functional status: How has life been impaired?
- Coping style, emotional and mental functioning

Pain Management Programs: Individualized Treatment

- Treatment is structured and time-limited
- Treatment has
 - Concrete aims
 - Rules
 - Endpoints
- Patient has specific goals to achieve
 - Accepting the role of self-management may be helpful in reducing pain severity and interference with lifestyle

Pain Management Programs: Components of the Programs

- Patient education
 - Complete information about condition
 - Day-to-day management issues
- Training
 - Relaxation
 - Exercise/Stretching
- Group Therapy
 - Gain control of emotional responses
- Target maladaptive cognitions
 - That arise in response to chronic pain

Pain Management Programs: Involvement of the Family

- Many programs intervene at family level
 - Chronic pain patients often withdraw from families
 - Families try to be supportive but may inadvertently reinforce pain behaviors
- Programs work with families to reduce counterproductive behaviors

Pain Management Programs: Relapse Prevention

- Nonadherence to pain regimens is a common problem
- Incidence of relapse after initial successful treatment ranges from 30% to 60%
 - For some pains, relapse is directly related to nonadherence

Pain Management Programs: An Evaluation

- Behavioral interventions
 - Reduce reports of pain disability
 - Reduce reports of psychological distress
- Improvement on psychosocial dimensions
 - Commonly found as a result of pain management
- Programs offer the dignity that comes from self-control of one's pain
