Chronic Pain Management

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Objectives

- Enhance awareness of the physical and psychological aspects of chronic pain within different pain models.
- Increase awareness of the differences between acute and chronic pain.
- Increase familiarity with treatment options for chronic pain.
National Implications

- Affects an estimated 50 million US adults
  - Institute of Medicine (2018)

- The leading cause of disability and often does not respond to traditional treatments

- Cost estimated at $560 billion - $635 billion
  - Agency for Healthcare and Research Quality, 2018

- A Dual Crisis
Biopsychosocial Implications

- Physical and emotional health connection
- Depression and Anxiety comorbidities
- Quality of Life
- Relationships

(Ballantyne & Shin, 2008)
A Biopsychosocial Assessment

- Pain experience (current and history)
- Pain beliefs
- Mental health history
- Family/friends’ beliefs about pain
- Cultural beliefs about pain
- Provider’s reactions
- Coping strategies
- Access to treatment
Defining Pain: 3 Models

CARTESIAN MODEL

GATE CONTROL MODEL

NEUROMATRIX MODEL
- Pain is associated with tissue damage

- “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”

  - The International Association for the Study of Pain (1979)
Types of Pain

- Nociceptive
- Neuropathic
- Headache
Acute Pain

- Less than 3 months
- Is a symptom
- Cause is identified (body’s response to injury)
- Responds to treatment
Chronic Pain

- More than 3 months
- Is a condition
- My develop after incident; may or may not have known cause
- Persists despite treatment and/or beyond expected healing time
Gate Control Model (Melzack & Wall, 1978)
Factors that Open the Gate

- Emotional distress
- Unhelpful thoughts
- Deactivation
- Over-productivity
- Chronic opioid treatment
Factors that Close the Gate

- Relaxation
- Pacing activities
- Helpful thoughts
- Satisfaction with values
- Satisfaction with relationships
- Adequate sleep
- Certain Medications
Pain Cycle

1. Pain
2. Fear
3. Do Less
4. Worse Mood
5. Open Pain Gate
6. More Pain
Neuromatrix Model (Melzack, 1990)

- Expands on Gate Control Theory with 2 Important Shifts:

1. The brain and spinal cord are what produce pain, not tissue damage

2. Various parts of the central nervous system work together to produce pain

Institute for Chronic Pain
CNS Factors That Generate Pain

- Spinal cord
- Brain stem and thalamus
- Limbic System
- Insular cortex
- Somatosensory cortex
- Motor cortex
- Prefrontal cortex

Institute for Chronic Pain, 2019
Neuromatrix Model of Pain

Institute for Chronic Pain, 2019
Treatment Options
Pain Management Best Practices

- Balanced
- Individualized
- Multidisciplinary
- Increase Access to care
- Reduce Stigma

Inter-Agency Task Force, 2019
Recommendations for Acute Pain Management

- Assessment and Monitoring

- Risk-Benefit Analysis
Opioid Therapy

- Benefits: Can provide pain relief for a wide variety of conditions

- Risks:
  - Side Effects and Dependency
    - Constipation, sedation, nausea, vomiting, irritability, respiratory suppression, sensitized pain receptors
  - Acute and Post Acute Withdrawal Syndrome (occurs after 1 week of taking a prescribed opioid)
    - Acute: Severe flu symptoms, depression, insomnia
    - Post Acute: insomnia, mood disturbance, low energy, pain sensitivity (can last up to 12 months)
Non-Opioid Medications for Consideration

- Acetaminophen
- NSAIDs
- Anticonvulsants
- Antidepressants
- Musculoskeletal agents
Restorative Therapies

- Physical and Occupational Therapies
- Message Therapy
- Cold/Heat
Minimally Invasive Interventions

- Injections
- Ablations
- Electrical or Magnetic Stimulation
- Pumps
Psychotherapy Interventions

- Behavioral Therapy
  - (McCraken & Turk, 2002)

- Cognitive Behavioral Therapy
  - (Shelly et al., 2018)

- Acceptance and Commitment Therapy
  - (Dahl & Lundgren, 2006)

- Mindfulness-Based Stress Reduction
  - (Cherkin et al., 2016)
Motivational Interviewing

- “A collaborative conversation style for strengthening a person’s own motivation and commitment to change” (Miller & Rollnick, 2013)

- Help individuals consider active vs. passive treatment
Alternative/Complimentary Therapies

- Chiropractics
- Acupuncture
- Yoga/Tai Chi
- Biofeedback
- Hypnotherapy
Special Populations
Chronic pain affects 5-38% of children and adolescents (Huguet, 2008)

Developing nervous system is vulnerable to pain sensitization

Poor pain management in children can result in increased impairment in adulthood

Comorbidities: anxiety, depression

Important to involve family members in treatment
Older Adults

- Treatment is complex due to medical comorbidities, polypharmacy
- Loss of functioning
- Increases risk for depression and suicide
Men and women process pain differently.

Gender roles may influence provider communication.

Men report higher threshold; Women report higher tolerance.

(Fillingim, 2009)
Health Disparities

- **Racial and ethnic minority populations**
  - (Campbell & Edwards, 2012)

- **Sexual minority populations**
  - (Case et al. 2004; Cochran & Mays, 2007; Wise et al., 2015)
Questions?
References


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