Improving Chronic Pain Outcomes with Integrative Nursing Interventions

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Objectives

- Apply the biopsychosocial framework to the approach used for chronic pain management
- Explain five strategies to help identify risk factors that contribute to chronic pain and possible therapeutics to treat these factors
- Describe three key ways to implement integrative pain management strategies into your nursing practice
Chronic Pain is a Worldwide Problem

- Chronic pain is a problem for over 40% of the population worldwide
- The consequences of chronic pain expand across psychological, social and functional outcomes
- International Association for the Study of Pain established principles for the assessment and treatment of pain in all individuals
Biopsychosocial Framework

Persistent Chronic Pain
Episodic Chronic Pain
Intermittent Pain

High Psychological Distress

Mood
Anxiety
Depression

Somatization
Stress response

High State of Pain Amplification

Proinflammatory state
Impaired pain regulation
Autonomic function

Genetic factors regulating psychological and pain processing

Mechanisms of Chronic Pain

Following peripheral inflammation or nerve injury, pain facilitating neurons release excitatory amino acids (EAAs), nitric oxide, proinflammatory cytokines, matrix metalloproteinases (MMPs), and adenosine triphosphate (ATP).

The release of these substances activate glial cells (microglias, astrocytes, and possibly oligodendrocytes) as well as surrounding Schwann cells. Activated glia increase release of proinflammatory cytokines (interleukin IL-1β, IL-6, and TNF-α) and chemokines which promote pain sensitivity.

A-beta afferent fibers sprout and synapse with secondary neurons causing persistent pain.

Activation of surrounding glia induce pathways of persistent pain.

Peripheral Mechanisms of Chronic Pain
Ectopic and spontaneous discharge
Nonsynaptic conduction
Alterations in ion channel expression
Collateral sprouting of primary afferents
Nociceptor sensitization
Neurogenic inflammation
Amplification of Pain

Central Mechanism of Chronic Pain
Central sensitization
Spinal reorganization
Cortical reorganization
Changes in inhibitory pathways
Changes in facilitatory pathways
Changes in glial cell function

Pain Management Principles

- **Acknowledge** a patient’s report of pain
- **Share responsibility** for managing pain
- Apply a *multi-modal approach* when treating pain
- Identify *outcome goals* when treating pain
- **Communicate** with providers about pain management
- Promote *safe use* of prescribed controlled substance medications
- **Utilize tools and resources** in pain management
- Be informed re: the *Federation of State Medical Boards’ Model Policy* in pain management
Pain Management System

• Clinical environment
  – Policies and support
• Patient selection
  – Risk of abuse screening
• Setting Goals
• Follow-up and Documentation
• Ongoing monitoring
• Addressing non-adherence
Chronic pain care is always interdisciplinary.
Share Responsibility for Managing Pain

Commitment
Collaboration
Communication
Coordination

Safe & Effective Pain Management

Goals should be directed toward:
Improving general health
Cessation of tobacco use
Exercise
Improving psychological well-being
Self-management behaviors
Abstaining from high-risk behaviors
Work rehabilitation if possible
Integrative Strategies for Pain Management

1. Nursing interventions
   A. Educate about pain and treatment options
   B. Assist patients to optimize treatment modalities
   C. Ensure that both active and passive modalities are utilized

2. Nonpharmacological modalities
   - Active
     - Exercise/Movement therapy
     - Cognitive strategies (Guided imagery, Mindfulness)
   - Passive
     - Massage
     - Electrocutaneous therapy
Pharmacological Selection

Peripheral agents
- Aspirin
- Acetaminophen
- NSAIDs/COX-2 inhibitors
- Nerve blocks
- Capsaicin

Central Agents
- Anticonvulsants
- Antidepressants
- Alpha2-agonists
- Opioids
Nonpharmacological Selection

• Type and location of pain
• Patient preferences for both active and passive modalities
• Resources/access to active and passive modalities
Electrocutaneous Therapy

• Many different devices available
• Patient preferences concerning intervention delivery/access to treatment
• Scrambler/Calmare therapy is approved for chronic neuropathic pain
  - Delivery
  - Review of clinical studies
  - Integrative approach

Starkweather et al. (2015). Research in Nursing & Health
Resources

• American Chronic Pain Association
  • www.theacpa.org
• American Pain Society
  • www.ampainsoc.org
• Emerging Solutions in Pain
  • www.emergingsolutionsinpain.com
• International Association for the Study of Pain
  • www.iasp.org