Improving Pain Management with Integrative Healthcare Approaches

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APA Disclaimer Statement
Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice, in accordance with and in compliance with your profession’s standards.

What is Pain?
• “Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.” - International Association for the Study of Pain (IASP), 1979, 1999
• “Whatever the experiencing person says it is, existing whenever he (or she) says it does.” - McCaffrey & Pasero, 1999

Course of Pain
One of the most important distinctions in understanding and treating pain is between acute and chronic pain.

<table>
<thead>
<tr>
<th>Acute Pain</th>
<th>Chronic Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3 months</td>
<td>&gt;3 months</td>
</tr>
<tr>
<td>New onset</td>
<td>New onset</td>
</tr>
<tr>
<td>Identifies cause, body’s response to injury</td>
<td>May develop after incident; may have no known etiology</td>
</tr>
<tr>
<td>Requires healing and responds to treatment</td>
<td>Requires beyond reported healing and no response to treatment</td>
</tr>
</tbody>
</table>

Prevalence of Chronic Pain
In the US alone, about 100 million adults are affected by chronic pain (Medical Expenditure Panel Survey, 2008). That number includes:
• Low back pain (31 million at any given time!)
• Arthritis (at least 20 million)
• Migraines (18% of all women, 6% of all men)
• Fibromyalgia (5 million)
• Lupus (1.5 million)
• … And so many more!

The Economic Cost of Chronic Pain
The 2010 estimated cost associated with persistent pain ranged from $560 to $635 billion annually (Gaskin & Richard, 2012). Those figures include:
• $261 to $300 billion for health care due to pain
• Lost productivity is based on three estimates:
  1. Days of work missed ranging from $11.6 to $12.7 billion
  2. Hours of work lost (from $85.2 to $96.5 billion)
  3. Lower wages (from $190.6 to $226.3 billion)
Suicidality:
- PTSD
- Psychiatric
- Physical

Prevalence
Substance
Proposed
Physical
Pain
Depression
Adverse
Risk
Mental
Anxiety

Do Opioids Really Help for Chronic Pain?
A retrospective cohort design study evaluated the association between opioid therapy and health-related quality of life (HRQoL) in participants with chronic, noncancer pain (CNP). Pain found:
- Physical Component Scores (PCS12) were not significantly different between chronic opioid, nonchronic opioid, nonopioid user groups
- Mental Component Scores (MCS12) were not significantly different between chronic opioid, nonchronic opioid, and nonopioid user groups.

Conclusion: In CNP, opioid use is not correlated with better HRQoL.

Prevalence of Opioids in the United States
Since 1999, the amount of opioids prescribed per person in the U.S. has tripled, but prescription rates peaked between 2010-2012 and have been declining since.

There were a billion opioid prescriptions in 2015, which would have been enough for every American adult to have their own bottle of pills. Nationally, the rate has decreased 3x prescriptions per non people in 2010, but, opioid prescription rates still rose more than the number of persons in 46.2M & 882.

Follow this link to see how your state is doing:
https://www.cdc.gov/drugoverdose/maps/rxstate2

Opiate Use and Mortality
From 1999 to 2016, opioid overdose deaths have quintupled.

According to the U.S., unintentional overdose deaths are now the leading cause of injury deaths among 15-44 years old in the United States (U.S.), and Opioids were involved in 42,449 deaths in 2010.

Do Opioids Really Help for Chronic Pain?
12 month RCT of 240 Veterans with moderate to severe chronic back, hip, or knee or pain assigned to opioid and non-opioid medication treatment groups found:
- No significant difference pain-related function
- Pain intensity was significantly better in the nonopioid group
- Adverse medication-related symptoms were significantly more common in the opioid group

Conclusion: “Results do not support initiation of opioid therapy for moderate to severe chronic back pain, hip, or knee osteoarthritis pain.”

Pain Treatment Models
Specificity Theory of Pain
- Proposed by van Peer (1994)
- Physical pathology and pain experience have a one-to-one relationship (Pain Intensity = Degree of Physical Pathology)
- It can be an appealingly straightforward theory, but it does not explain the complex presentation of chronic pain experiences.
Pain Treatment Models

**Biomedical Approach**
- Focuses on purely biological factors in illness/disease
- Predominant model of medicine
- Health = Freedom from:
  - Disease
  - Pain
  - Defect
- Treatment = Traditional Medicine:
  - Surgery
  - Medication
  - Physical Therapy

**Gate Control Theory of Pain (Melzack & Wall, 1965)**
- Highlights the role of psychological variables in pain perception
- Suggests pain is a subjective experience influenced by many factors, including thoughts, feelings, and behaviors, and can be minimized or exacerbated by attending to particular stimuli

**Biopsychosocial Approach**
- Proposed by George Engel (1977)
- The current most widely accepted model
- Acknowledges each individual experiences pain in a unique way that is affected by:
  - Physiological
  - Psychological
  - Social factors

**Neuromatrix Model of Pain (Melzack, 1999)**
- Integrates principles from the Gate Control Theory, Selye's models of stress (1950, 1976) and concepts of neuroplasticity
- Pain is a multidimensional experience reduced to an initial pattern of nerve impulses, or neurotransmitters, that are impacted by factors such as sensory experience and learning.
- Chronic pain disrupts the system and becomes a chronic stressor, triggering an unproductive cycle.
- Changes occurring in the brain may alter sensitization and modulation of pain.
- Emphasis on the importance of the relationship between pain and stress, and the need to decrease tension with tools such as relaxation to combat pain intensity and disrupt the pain-stress cycle.

**Why integrative pain management?**
- Integrative pain management is a patient-centered model of pain care that emphasizes the principles and practices of integrative medicine, including a focus on the restoration of health and wellness.
- Treats both physiological and psychological components of pain.
- Improves function, quality of life, and self-care on individual and population levels.
- Cost-Benefit: For patients receiving IM therapies, pain was reduced by an average of 2.05 points, and this pain reduction was associated with a cost savings of $898 per hospital admission.

**Why Patients seek Complementary Treatments**
- Symptom relief
- Mood improvement
- Resistance to conventional treatments
- Non-invasive
- Avoid adverse effects, addictive potential
- Prevention
- Cost-effectiveness
- Patient satisfaction
- Lifestyle change
- Improvement beyond pain
Evidence Base for Mindfulness & Pain

- Immediate effect shifts in executive attention consistent with neuroimaging
  • Deactivates the right middle frontal gyrus during pain processing and its P300 component
  • Decreases heart rate variability
- Long-term effects improve the subjective experience of pain and pain intensity
  • Improves cognitive appraisals of pain and reduces emotional reactivity to pain
  • Improves pain self-efficacy
  • Increases acceptance of pain

Clinical Considerations for Mindfulness

Low risk
- Psychological consistency
- Low psychological resistance
- Network
- Medical necessity
- Acceptance
- Hospital
- Patient education
- Engagement
- Technique
- Duration
- Community resources
- Cost-effectiveness
- Organization of care
- Effectiveness
- Feasibility
- Physician
- Biofeedback

Biofeedback for Pain Management

- Acupuncture that enables the individual to reach the desired physiological state and enhances its effects
- Instruments provide feedback on physiological changes, such as heart function, muscle activity, and skin temperature
- This information is used to guide the individual in managing pain and stress
- Meditation as a form of psychophysiological intervention that reduces stress and enhances well-being
- Biofeedback allows for a more controlled and personalized approach

Evidence for Mindfulness & Pain

- Mindfulness-based stress reduction (MBSR) improves pain intensity and quality of life in chronic pain patients
- Mindfulness-based cognitive therapy (MBCT) reduces the recurrence of depression in patients with recurrent depression
- Mindfulness-based group therapy (MBGT) increases compliance with pain management in chronic pain patients

Mindfulness-Based Instruments

- Tailored psychological interventions
- Referrals to psychologists or other mental health professionals
- Community health education
- Accessible education programs
- Reduced psychological distress
- Improved pain management
- Better quality of life
- Greater reduction in pain
- Increased self-efficacy in pain management
- Reduced medication use
- Improved sleep quality
- Enhanced mood and overall well-being
- Reduced pain intensity
- Increased pain tolerance
The Choice of instrument and Hypnosis

Hypnosis: What is it?
- Hypnosis means “one person (the subject) is guided by another (the hypnotist) in order to suggest thoughts or images to alter perception, emotions, imagination, sensation, movement, thought or behavior” (American Psychological Association, 2002, p. 6).

Hypnosis makes it easier for people to experience suggestions, but it does not force them to have those experiences. (Dial, 1995).

Hypnosis: Training
- Training to become a certified hypnotist takes about 100 hours of classroom instruction, as well as 20 hours of supervised practice in the use of hypnosis. Additional training may be required to work with certain patient groups, such as children.
- Hypnosis is a safe, effective treatment for a variety of conditions, including pain management, stress reduction, and smoking cessation.

Hypnosis: Evidence
- Low Back Pain (some evidence):
  - Reduced pain
  - Improved pain coping/adjustment
  - Decreased pain intensity
- Sickle Cell Disease (some evidence):
  - Decreased flush duration
  - Decreased flush intensity

Hypnosis: Safety
- Hypnosis is considered a safe, complementary and alternative medical treatment. However, hypnosis may not be appropriate in people with serious mental illness, Alzheimer's disease, or hypnagogic insomnia, and may not be effective for certain disorders, such as some forms of cancer.
- Hypnosis is not recommended for children, and it is important to weigh the potential risks and benefits before using hypnosis to treat a particular condition.

Clinical Considerations for Biofeedback for Pain Management
- "The purpose of therapy is to teach clients the ability to voluntarily reduce the feedback signal to within normal limits and to maintain this level of control when feedback is not present." (Dial, 2002).
- The use of trained professionals is recommended for optimal effectiveness.
- Biofeedback therapy can be delivered in-person or remotely.

Biofeedback
- Biofeedback therapy involves the use of instruments that measure physiological responses, such as heart rate or muscle tension, and provide immediate feedback to the client.
- The goal of biofeedback therapy is to help clients learn to control or reduce these responses in order to improve their physical and mental health.
- Biofeedback therapy can be used to treat a variety of conditions, including pain, anxiety, and stress.
- Biofeedback therapy can be delivered in-person or remotely.

Evidence-Based for Biofeedback Pain Management
Tai Chi & Qi Gong

What Are Tai Chi and Qi Gong?

• Tai Chi and qi gong are centuries-old, related mind and body practices. They involve certain postures and gentle movements with mental focus, breathing, and visualization. The movements are slow, relaxed, and performed while standing or sitting, and are sometimes referred to as moving meditation.

• Qi Gong is an ancient Chinese discipline.

• Practices can be tailored to calming activities and themes of nature.

• Tai Chi is an ancient Chinese martial art.

• Some may be practiced quickly for use as self-defense or combat.

Yoga

• Developed about 5,000 years in India as a comprehensive system for wellbeing, involving physical, mental, emotional, and spiritual aspects.

• Fried on combination of physical postures, breathing exercises, meditations, and education.

• There are a wide variety of approaches and individual experiences that are likely to vary with practice style and personal preferences.

• One of the fastest-growing areas of IFH with millions of people using it to help promote their quality of life in areas such as physical, mental, emotional, and spiritual wellbeing, healing, peace of mind, and spiritual growth.

Yoga: Evidence Base

• Decreased pain
• Increased function

Chronic Neck Pain (some evidence)

• Decreased pain
• Increased function

Fibromyalgia (good evidence)

• Increased pain coping
• Increased function
• Better sleep
• Decreased fatigue
• Decreased depression

Yoga: Risk & Safety Considerations

Training, Licensing, and Certification

• The National Council for Certification in Yoga &0Min &0H &0Health, or the Yoga Alliance, or other organizations may require certain standards for training. These include a minimum of 200 training hours, the completion of a 200-hour Yoga Teacher Training program, or the structure of the yoga program.

• There are many different styles of yoga, so it is important to choose one that is appropriate for you. For example, some styles may be more appropriate for beginners, while others may be more suitable for advanced practitioners.

• It is important to use the services of a licensed yoga teacher who is able to demonstrate proficiency and safely.

Safety of Tai Chi and Qigong

• Generally considered safe practices, with serious injury unlikely.

• It may be associated with minor aches and pains.

• Always exercise caution when combining yoga with other health practices, such as the use of herbs, supplements, or other forms of therapy.
Acupuncture

• Traditional Chinese Medicine that dates over 2000 years old
• A form of procedure involving the stimulation of points on the body using a variety of techniques.
• Insertion of fine needles into the skin and "acupoints" along energy pathways (meridians) to influence the life force energy, qi.
• Needles may be manipulated by the hands or by electrical stimulation.
• Releases endorphins, natural painkillers, and endocortisol (neurohormones)

What works for whom?

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Outcome</th>
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<tbody>
<tr>
<td>Headaches</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>Arthritis</td>
<td>• Reduced pain and stiffness</td>
</tr>
<tr>
<td>Neck pain</td>
<td>• Improved mobility</td>
</tr>
<tr>
<td>Back pain</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>Sciatica</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>Migraines</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>RA</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>OA</td>
<td>• Improved pain intensity (some)</td>
</tr>
<tr>
<td>Neuropathy</td>
<td>• Improved pain intensity (some)</td>
</tr>
</tbody>
</table>

Integrative Care Models

• The inclusion of integrative strategies has the opportunity to lower the risk of side effects and improve patient outcomes. "The time is now to shift away from allopathic science ... Heather Toz, MD
• Settings:
  - Interdisciplinary pain clinic
  - Primary care setting
  - Interprofessional appointments
  - Pain rehabilitation clinic

Acupuncture: Evidence Base

- Fibromyalgia (moderate to strong evidence):
  - Reduced pain and stiffness
- Migraines (some evidence):
  - Improved pain intensity (some)
- Sciatica (some evidence):
  - Improved pain intensity (some)

Risk & Safety Considerations

Safety and Risk Considerations

- Acupuncture is considered safe when administered by trained practitioners. However, complications may include infections, puncture injuries, and improper needle insertion.

Training, Licensing, and Certification

- Most states require practitioners to be licensed. Licensing requirements vary by state. Some states require additional training and certification in acupuncture. Practitioners must maintain continuing education credits to stay licensed.

Teamwork Makes the Dream Work

Like other chronic health conditions without a cure (e.g., diabetes), focus on changes that can be made to positively impact quality of life and functioning.

• MIDD/YPHP focuses on medical optimization.
• PT/DT/OT focuses on physical reconditioning.
• Mental Health Providers focus on lifestyle changes that include critical behavioral and cognitive modifications.
Evaluation

Assessment and functional factors related to pain experience:
- Mood
- SMART
- Treatment
- Transitioned
- Reduce
- Self
- Physical
- Impact
- Completed
- Increased
- Increase
- Social
- Weekly
- 2
- Decreased
- Additional
- Reported
- Hope
- Higher
- Diet
- Improved
- Anxiety
- Coping
- Sleep

Outcomes

Factors

Assess

Training

Impairment

Support

(Sleep, anxiety, style, relationship)

Pain

Medication

Experience

Disability

Disease

It is more important to know what kind of person has a disease than what kind of disease a person has. Hippocrates

Case Study

Outcome:
- Improved relationship with pain management
- Transition of adult medication and
- Anger in rural active coping
- Copied individual therapy and self-handling
- Sent report
- Mood
- History of sleep issues decreased
- Anxiety, increased from severe angry
- Increased, regulation to frequency of
- Short-term medication, and very limited daily routine
- Needs to further

Goal Setting

- 2-3 treatment modalities at a time
- SMART goals
- Consider time, energy, and financial self-help
- Collaborate with providers

Assessment:
- Impact of pain on daily life
- Physical evaluated
- Increase coping skills and self-efficacy
- Reduce pain intensity

Healthy habits promotion should be commonplace initiatives for improving health, quality of life, and pain management because health risk behaviors are strongly associated with the onset of chronic disease.

In fact, it has been suggested that eliminating health risk behaviors would prevent 30% of cardiovascular disease, cancer, and diabetes.

Moreover, NHANES indicated about 60% of overall health-related quality of life is dependent on individual health behavior habits.

Additionally, there appears to be a synergistic relationship between complementary and alternative health behaviors.

So isn’t it time we start focusing on caring for the whole health of our patients, instead of disease and symptom management?

Case Study

Clinical Case 40-year-old, married, male veteran

- One-school, social, stay-at-home dad
- One-chain café
- History of shoulder, cervical, headaches
- Limited job due to organ failure
- Developmental disability, WNL
- Observations: angry, using inappropriate language, socially withdrawn
- Previous Treatments: TENS, Acupuncture

- Current: Trazodone, topiramate, omeprazole, venlafaxine, amitryptiline, zopidem

- Goal: PTSD, sleep difficulties, nightmares, pain increases, irritability, socially withdrawn, weight
- Overall: Social activities, sleep was once controlled, partakes in R loved, was active, spends time with
- Should reduce pain level, social activities, and need for back surgery
- Additional questions:
- Which would you recommend, would you consider?
- How would you assess effectiveness of treatment?

The Power of Self-Care

- Improved outcomes
- Increased self-efficacy
- Decreased healthcare costs
- Higher motivation
- Improved Empowerment

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Concluding Thoughts & Discussion

How do we bridge the practice & research gap?

• Patient Perspectives
• Communication w/ Patients
• Healthcare Policy
• Cultural & Social In-Dep
• Safety, Effectiveness, & Cost
• Globalization
• Collaboration
• Professional Competency

Questions