Identifying and Treating Psychosocial Aspects of Pediatric Pain

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Objectives and Overview

- Prevalence and impact of chronic pain in children
- Importance of psychological and psychosocial factors
- Introduce provider strategies for encouraging active coping
- Identify when and how to refer to psychological services
HE ALWAYS WOKE UP
WITH A STRANGE PAIN IN THE NECK
Case Example 1

• 17 year old girl with back pain for 12 months
• Wants to change to online school
• High depressive symptoms
• Withdrew from soccer because playing increases pain
• Negative MRI
• Parents “want answers”
Case Example 2

• 13 year old boy with headache and fatigue; onset following virus 6 months ago
• Seen by Neurology and failed a number of medication trials for headache; seen by ID, no findings
• Resisting school attendance, refusing to go on long car trips
• Parents “struggling to know how much to push”
Chronic Pain Illustrated
Chronic Pain in Youth is Common

- 20-40% in community samples have pain lasting for > 3 months
- Moderate to severe disability in 5-10%
- Most common locations: limbs, head, abdomen
- Peak incidence in teens (14-15 years); girls > than boys
Acute versus Chronic Pain

![Graph showing pain severity over months for acute and chronic pain]
Demographics: Age and Sex Effects

- Increase in prevalence of pain problems post-puberty
- Sex-specific differences in pain emerge during adolescence (girls > boys)
- Sex-specific differences in depression emerge during adolescence (girls > boys)
- Complex changes in conjunction with development, changing family/peer relationships, and hormonal factors
Fig 1 Prevalence of pain of back and neck occurring at least weekly, 1985-97

- From Hakala et al., BMJ, 2002
Onset of headaches by sex and pubertal status

Rhee, 2005; J of Ped Health Care
Common Diagnoses in Pediatric Pain Clinics

- Functional abdominal pain
- Chronic daily headache
- Myofascial pain (neck, shoulders, back)
- Fibromyalgia
- Complex Regional Pain Syndrome
- Combinations of diagnoses and locations
• Functional abdominal pain
• Chronic daily headache
• Musculoskeletal pain (neck, back, limbs)
• Widespread pain/Fibromyalgia
• Complex Regional Pain Syndrome
• Combinations of diagnoses and locations

Pain has a life of its own, and is the problem: Persistent, abnormal excitability
Consequences for Children:

- Missed School
- Mood and Anxiety
- Social Function
- Physical Function
- Sleep Problems

And Parents:

- Missed work
- Financial Stress
- Emotional Distress
- Changes in family roles
- Stressful interactions with child
Palermo, et al., 2004
THAT'S RIGHT, DOCTOR. MY FOOT IS HAVING CHEST PAINS.
Economic Impact

• Estimated total societal costs of pediatric chronic pain = $19.5 billion/year
Why Are Psychological Factors Important?

- Changes in disease/pain do not necessarily result in changes in functional outcomes

(Palermo, 2000; Logan & Scharff, 2005)
Emotions, Thoughts, and Behaviors!

Disease Status/Acute Pain

Functioning/Chronic Pain

- Depression
- Family Factors
- Parent Behaviors
- Avoidance Behavior
- Withdrawal
- Stress
- Sleep
- Catastrophizing

OHSU
Importance of Pain Anxiety

• **Fear-avoidance:**
  – “Physical activity makes my pain worse” or “I cannot do movements that make my pain worse”

• **Pain Catastrophizing:**
  – “I can’t keep it out of my mind” or “I think it’s never going to get any better”

• **Greater pain anxiety associated with higher pain intensity and disability**
Fear-avoidance by Pain Location

Wilson, Lewandowski Holley & Palermo, 2011
The Fear-Avoidance Model

Vlaeyen & Linton, 2000
Importance of Parental Responses

- Specific responses to child pain can inadvertently reinforce or encourage pain behaviors
  - Frequent attending to pain symptoms
  - Allowing withdrawal from less preferred activities
  - Encouraging children to stop painful activities

- These responses are associated with higher child pain and disability
How do parental protectiveness and adolescent fear-avoidance work together?

- Parent behaviors influence child fears
- Fear-avoidance beliefs may serve as one pathway through which parental protectiveness influences activity limitations

Wilson, Lewandowski Holley & Palermo, 2011
“What can I do to help my patients ?!?”
What is Coping?

- Efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events.
Active vs Passive Coping

• **Active coping:**
  – an attempt to use one's own resources to deal with a problem situation

• **Passive or avoidant coping:**
  – relying on others to resolve stressor and/or avoid dealing with stressor
Coping with Pain

• We are all biologically programmed to avoid pain

• In chronic pain avoidance can perpetuate pain and disability – Stop attending school because head pain increases

• Active coping more likely to put kids on a path to recovery (vs. fear and disability)
How to Assess Pain Coping

• What helps you tolerate pain?
• How are you getting through this?

• Red flags for avoidance:
  – Helpless/hopeless
  – Waiting/withdrawing
Active Coping

• DOING something to make yourself feel better
• Trying a VARIETY of things

<table>
<thead>
<tr>
<th>Active Examples</th>
<th>VS. Passive Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anything physically active:</strong></td>
<td><strong>WAITING</strong> for it to get better</td>
</tr>
<tr>
<td>exercise, going out with friends, physical therapy</td>
<td></td>
</tr>
<tr>
<td><strong>Relaxation:</strong> deep breathing, meditation, etc</td>
<td>Hoping that others will solve the problem</td>
</tr>
<tr>
<td><strong>Making adjustments</strong> to help with</td>
<td><strong>Withdrawing</strong> from valued</td>
</tr>
<tr>
<td>continuing to do valued activities</td>
<td>activities</td>
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</table>
You only have 20 minutes

• How do you encourage active coping in a limited amount of time?
• How do you communicate negative findings WITHOUT sending the message that pain is in their head?
• Language and recommendations matter!
“I hope you’re not going to be like the twenty incompetent doctors who couldn’t find anything wrong with me.”
Language Matters

1. All pain is real
   – “Pain is real regardless of whether or not there is an identified medical cause”
   – “The brain can sense pain signals even if imaging does not show tissue damage”
Language Matters

2. Reflect and normalize pain experience:
   – “Sometimes kids have an injury or an illness that causes pain, but when the original problem goes away pain signals can get stuck in the on position.”
   – “It seems like your pain signaling system is not functioning like it should.”
   – “You can learn to turn down your pain signal.”
Language Matters

3. Use Analogies
   – Persistent pain is like a doorbell that goes haywire
   – Chronic pain is like a car alarm
Recommendations Matter

1. Prescribe monitoring
   – “I don’t think this pain is being caused by anything serious, but I want to monitor this. Please make # appointments/send me messages, etc.”

2. Prescribe physical activity
   – “It is important that you keep moving as much as possible, even when you have pain.”
   – “Playing soccer hurts but it is not dangerous to your child’s body.”
3. **Prescribe engagement in normal activity**
   - “Do activities you enjoy while we work on turning off those pain signals.”

4. **Prescribe pain psychology???
   - A child **does not need** to be depressed/anxious
   - High pain-related disability
   - Help with goal-setting around activity; addressing sleep problems
   - **Operant strategies** for parents
OHSU/Doernbecher Services

- **Pediatric Pain Management Clinic:**
  - Multidisciplinary team of providers (anesthesiologists, physical therapists, nurses, and psychologists)

- **Coping Clinic:**
  - CBT, relaxation training, and biofeedback services for youth with chronic painful conditions.

- (503) 418-5188
Goals of Treatment

- Independent functioning
- Effective problem-solving
- Decrease pain behaviors and pain intensity
- Improve sleep
- Meet rehab goals, core functioning first (school attendance, physical activity)
- Gain self-management skills for coping
- Reduce pain-related anxiety
CBT for Pain

1. Education about chronic pain
2. Cognitive methods: Changing thinking, reducing catastrophizing and fear
3. Skills acquisition and rehearsal (e.g., relaxation training)
4. Behavioral change by operant methods: including work with parents
Relaxation Therapies

- May involve deep breathing, progressive muscle relaxation, imagery, mindfulness, or biofeedback assisted relaxation.

- Goals:
  - Teach strategy that provides distraction or and reduces pain focus.
  - Produce physiological changes to help decrease perception of pain (heart rate, blood pressure).
Biofeedback

• Provides child feedback on how tense or relaxed their body is:

“When we are relaxed, youth breathing rate slows, heart rate decreases, hands and feet become warmer”

“With biofeedback, you can to learn to control responses that are normally automatic. You can learn to change your heart rate, blood pressure, and body temperature”
Working with Parents

- Avoid asking child if he or she is in pain
- Limit attention to pain behaviors
- Reward a child based on their participation in activities, use of pain management strategies
- Encourage participation in normal activities
- Encourage child to independently manage pain
- Restrict privileges on days when child misses out on activities due to pain
CBT is effective

Figure 6. Forest plot of comparison: 3 Treatment versus control (non-headache) post-treatment, outcome:
3.1 Pain.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Experimental</th>
<th>Control</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
<th>Std. Mean Difference IV, Random, 95% CI</th>
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<td></td>
<td>Mean</td>
<td>SD</td>
<td>Total</td>
<td>Mean</td>
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<td>20</td>
<td>19.72</td>
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<td>15.9</td>
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<td>Wicksell 2009</td>
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<td>2.3</td>
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</table>

Total (95% CI) 448 404 100.0% -0.57 [-0.86, -0.27]

Heterogeneity: Tau² = 0.21; Chi² = 48.60, df = 12 (P < 0.00001); I² = 75%
Test for overall effect: Z = 3.74 (P = 0.0002)

Psychological therapies for the management of chronic and recurrent pain in children and adolescents (Review)

The Comfort Ability Workshop

Please join us for a one-day group workshop for 10-17 year olds with chronic pain and their parents

This fun and interactive workshop is designed to help children and their parents learn how to better manage chronic pain. The Comfort Ability program includes a child group and a parent group running simultaneously and emphasizing the mind-body connection, offering non-invasive and non-medication strategies for improved pain management.
Core Components: Child/Adolescent Group

- Psychoeducation about pain
- Encourage engagement in regular activities
- Teach coping strategies (e.g., relaxation, imagery)
- CBT Introduction: Link between thoughts, feelings, and behaviors, and how these impact pain
- Q & A with a peer model who has successfully learned to manage pain
- Creation of Individual Pain Coping Plan
Core Components: Parent Group

- Psychoeducation about chronic and recurrent pain
- Parent training
  - Reduced focus on pain
  - Responding to child’s pain behaviors
  - Developing behavior plans
- School advocacy and planning
- Mental health resources
- Q & A with parent peer model who has helped their child to learn to better manage pain
Read and Recommend this book!
Acknowledgments

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Questions?
Thank You