Fear Avoidance in Chronic Pain and PTSD

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Objectives

• Nature of PTSD and Chronic Pain

• Theoretical models of comorbidity

• Role of Fear Avoidance in prolonging disability

• Treatment approaches

• Case Examples
Definition by DSM-5

One has been exposed to actual or threatened death, serious injury or sexual violation, through:

• Direct experience;

• Witnessing in person;

• Learning that the event occurred to a close family member/friend; or

• First-hand repeated/extreme exposure to aversive details of the event.
Post traumatic Stress Disorder

- A mental disorder that is a direct result of experiencing a traumatic event
- DSM-5: Person was exposed to a traumatic stressor, and experiences symptoms in 4 key clusters:
  1. Intrusions (1)
  2. Avoidance (1)
  3. Arousal/Reactivity (2)
  4. Changes in Mood and Cognitions (2)
- Persistence of symptoms for more than 1 month
- Significant distress or functional impairment
- Not due to medication, substance use, or other illness
Prevalence

Lifetime exposure to a traumatic event:
- 76% of the Canadian general population (Van Ameringen et al. 2008)

PTSD prevalence rates:
- 9.2% (lifetime) and 2.4% (past month) of the Canadian general population (Van Ameringen et al. 2008)

Comorbidity is common;
- esp. depression and other anxiety disorders (Kessler et al., 2005)
The Stress Response

Fight or Flight Response

- saliva flow decreases
- eyes pupils dilate
- skin blood vessels constrict; chills & sweating
- lungs quick, deep breathing occurs
- heart beats faster & harder
- bowel food movement slows down
- stomach output of digestive enzymes decreases
- blood vessels blood pressure increases as major vessels dilate
- muscles become more tense; trembling can occur
Recovery from Trauma

• High levels of PTSD symptoms are common immediately following trauma.

• Typically, symptoms decrease over time, e.g. through
  ➢ Engaging with trauma-related thoughts and feelings,
  ➢ Sharing them with others,
  ➢ Confronting trauma-related external triggers, etc.

• Avoidance of trauma reminders prevents recovery from trauma, e.g.,
  ➢ Pushing away thoughts and feelings
  ➢ Avoiding external reminders (situations, places, people, objects)
  ➢ → negative reinforcement, intolerance of anxiety symptoms

• Unhelpful thoughts and beliefs prevents recovery from trauma, e.g.,
  ➢ About the world or other people
  ➢ About self and own reactions during trauma
Avoidance

Problematic Beliefs

Imaginal Exposure
Exposure to trauma memory in imagination by describing the trauma aloud repeatedly during sessions
- Stop avoidance

In-vivo Exposure
Repeated exposure to external triggers (e.g., places, situations, people) in real life
- Stop avoidance

Emotional Processing
- Disconfirm problematic beliefs

Chronic Pain

- Affects one in five Canadian adults
- Most common complaint to Family Physicians
- Negative impact on occupational, social, recreational activities
  - Depression
  - Anxiety
  - Sense of worthlessness
  - Physical deconditioning
- Impaired emotional functioning, leading to maladaptive cognitions
  - Attentional biases
  - Hopelessness
  - Fear governs behaviours
Chronic Pain

- Pain beliefs dictate ability to cope and behavioural response

- Catastrophizing leads to fear avoidance, prolonging recovery

- Self-perpetuating, self-reinforcing cycle of chronic pain due to guarding and activity avoidance.
Fear Avoidance and Chronic Pain

**Figure 2:** The fear-avoidance model of chronic pain shows how acute pain after an injury can become chronic due to pain catastrophizing (a negative mental state about pain), fear of pain, and anxiety.
Treatment for Chronic Pain

Interdisciplinary Pain Management Program:

• Education
• Cognitive behavioural therapy
• Relaxation training
• Graded exercises
• Address avoidance
• Medication management
• Emphasis on function rather than symptoms
Shared Clinical Features of PTSD and CP

- Attentional bias
- Incident reminders
- Anxiety and hyper-arousal
- Intolerance of anxiety symptoms
- Negative reinforcement of avoidance behaviours
- Overestimation of risk
- Depression
35 to 50% of patients undergoing treatment for chronic pain have PTSD or PTSD symptomatology.

PTSD often results from physical injuries related to events such as occupational injuries, motor vehicle accidents, or physical assault.

Growing interest in the interaction between PTSD and pain, as research and clinical practice indicate that they frequently co-occur and can interact in such a way to negatively impact the course of treatment for either disorder.
Theory for Comorbidity

Mutual Maintenance Model

- Attentional biases lead to greater attention to threatening or painful stimuli
- Experience of pain identified as a reminder of the trauma; belief that pain equates to physical damage leads to use of avoidance as coping mechanism.
- Pain is persistent and arousal provoking reminder of trauma; arousal due to memory of trauma = avoidance of pain related activities
Theory for Comorbidity

Shared Vulnerability Model

• Having higher anxiety sensitivity predisposes one to respond to physical symptoms of anxiety with greater fear

• Tendency to respond with fear to physical symptoms of anxiety = vulnerable to develop chronic pain and PTSD

• Interaction of a psychological vulnerability for feelings of loss of control (anxiety), a decreased physiological threshold for alarm reactions (fight, flee, freeze), and a stressful event = neg emotional response
Fear Avoidance Model

- Short term avoidance
- Short term relief of anxiety
- Chronic avoidance
- Attentional biases, anxiety sensitivity
- Maladaptive appraisals
- Pain/trauma experience

Maladaptive appraisals

Chronic avoidance

Attentional biases, anxiety sensitivity

Pain/trauma experience

Short term avoidance

Short term relief of anxiety
Psycho-education:
  • Interaction of thoughts, emotions, behaviours
  • Discussion around catastrophizing
  • Education about fear avoidance in prolonging recovery
  • Impact of pain and anxiety on daily functioning

Develop hierarchy of avoided stimuli:
  • Work through exposure/confrontation exercises
  • Increase self esteem through success

Address depression:
  • CBT
  • Behavioural activation
Integrated Treatment

Foster cognitive restructuring:
• Address maladaptive automatic thoughts
• Decrease catastrophizing
• Correct attentional biases

Normalize emotional experience of anxiety

Reduce tension
• Relaxation training

Prolonged Exposure
• Address avoidance of traumatic memory
Exposure

• Stop avoidance and confront fears
• Learn new information about
  • the threat
  • anxiety
  • ability to cope
• Mechanisms
  • Habituation
  • Increased mastery of anxiety and distress (self-confidence)
  • Emotional processing of the traumatic event
  • Discrimination between trauma memories/reminders and trauma
  • Discrimination between the trauma and similar but safe situations
Prolonged Exposure for PTSD

1. Psychoeducation
   - Common reactions to trauma
   - Avoidance as maintaining factor for PTSD
   - Rationale for exposure

2. Breathing retraining

3. Repeated in vivo exposure to situations, places, activities, or objects that the client is avoiding because of trauma-related distress and anxiety

4. Repeated prolonged imaginal exposure to the traumatic memory

5. Homework
Imaginal Exposure and Reprocessing

1. Explain rationale
   - Emotional processing, discrimination, increased mastery, habituation

2. Explain procedures of imaginal exposure
   - Determine start and end points
   - Tell story in present tense and with eyes closed
   - As much detail as possible, don’t avoid
   - Repeat trauma account for at least 20-30 min

3. Therapist’s role during exposure:
   - listen
   - reinforce and encourage; coach client to stay with the memory
   - Assess SUDS every 5 min
   - Note important issues

4. Therapist’s role during reprocessing
   - Praise and reinforce
   - Open-ended questions about experience
   - Facilitate corrective learning

5. Record on tape

6. Homework: listen to recording
In Vivo Exposure

1. Explain rationale
2. Introduce SUDS
3. Develop fear hierarchy (safe situations)
4. Select situation of moderate difficulty
5. Plan in advance, identify safety behaviours
6. Stay in situation at least 45 min or until anxiety deceases by 50%
7. Assess SUDS
8. Repeat exposure until fear diminishes
9. Discuss, facilitate corrective learning
10. Select in-vivo assignment for homework
## Fear Hierarchy

<table>
<thead>
<tr>
<th>Activity</th>
<th>SUDS</th>
</tr>
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<tbody>
<tr>
<td>Go for walk during daylight</td>
<td>20</td>
</tr>
<tr>
<td>Go for walk at dusk</td>
<td>40</td>
</tr>
<tr>
<td>Go for walk in evening with friend</td>
<td>50</td>
</tr>
<tr>
<td>Go for walk in evening alone</td>
<td>60</td>
</tr>
<tr>
<td>Drive past accident site</td>
<td>75</td>
</tr>
<tr>
<td>Walk to accident site with friend</td>
<td>90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
<th>SUDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentle neck stretches</td>
<td>15</td>
</tr>
<tr>
<td>Passive shoulder ROM</td>
<td>20</td>
</tr>
<tr>
<td>Active shoulder ROM</td>
<td>40</td>
</tr>
<tr>
<td>Exercise with resisted band</td>
<td>60</td>
</tr>
<tr>
<td>Exercise with free weights</td>
<td>80</td>
</tr>
</tbody>
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Case Example

Roll over truck accident
PTSD & chronic low back pain

Barriers:
• Pain limited physical activity tolerance
• Concrete thinking about pain and trauma
• Avoidant of trauma reminders
• Attentional bias towards pain

Treatment:
• Education – Pain & PTSD
• Willingness to tolerate distress
• Address fear appraisals
• Develop coping strategies
• Exposure (imaginal & in vivo)
• Graded exercises
Assaulted while working
PTSD & chronic shoulder pain

**Barriers:**
- Pain limited physical activity tolerance
- Restricted daily routine
- Avoidant of trauma reminders
- Socially withdrawn

**Treatment:**
- Pain management
- Address fear appraisals
- Develop coping strategies
- Exposure (imaginal & in vivo)
- Graded exercises
- Increased community connections
Supporting Self-Management

• Goal setting
• Development of active coping strategies
  o Sensory and cognitive grounding
  o Daily functioning and sleep hygiene
  o Relaxation, breathing, and mindfulness training
• Homework completion
• Peer to Peer connections
Resources

Smartphone Apps

- MindShift
- iChill
- Breathe2 Relax
- PE coach
- PTSD coach Canada

Websites:

- http://www.ptsd.va.gov/
- http://www.istss.org
- http://www.veterans.gc.ca


