Working with Survivors of Torture and Trauma: Translating Evidence to Practice

Justine Dee PT, MS, OCS
Clinical Associate Professor, College of Nursing and Health Sciences
University of Vermont
Director of Physical Therapy Services
New England Survivors of Torture and Trauma

April Gamble PT, DPT
Physiotherapist Trainer
Center for Victims of Torture, Jordan and Iraq

Contributor: Deema Yaseen PT
Objectives

- Identify components of an effective assessment for survivors of torture and trauma
- Discuss the unique factors contributing to the differential diagnosis of physical symptoms present in survivors of torture and trauma.
- Describe the evidence for and application of pain education, progressive exercise, and graded motor imagery in an individualized treatment plan for improving functional outcomes in survivors of torture and trauma.
- Describe the role of psychosocial issues in the clinical presentation and treatment of survivors of torture and trauma.
Outline

- Chronic pain science
- Outcome measures
- Physical therapy management of chronic pain
- Trauma and health consequences
- Assessment tools
- Differential diagnosis
- Therapeutic Exercise

Nothing to disclose
Prevalence of Chronic Pain\textsuperscript{1,2}

- Varies depending on the study-
- Due to inconsistent definitions of pain
- Prevalence range from 11%-55\%\textsuperscript{1,2}
What is Known About Survivors of Torture/Trauma?\textsuperscript{3,4,5,6}

- Refugees and asylum seekers\textsuperscript{3,4}
  - 30.6\% with PTSD
  - 30.8\% with MDD

- Refugees and Torture Survivors often present with more somatic than emotional symptoms

- **Prevalence of chronic pain in STT 78-86\%** \textsuperscript{5,6}
Chronic Pain Presentation

- Hyperalgesia- increased sensitivity to pain
- Allodynia- pain sensation from a stimulus that is not normally painful
- Fear of movement
- Avoidance of activity

- Pain is a disturbed sensation that may cause disability, suffering, or distress

Pain is an unpleasant sensory and emotional experience that is associated with actual or potential tissue damage (IASP)\(^8\)

Complex experience, only a part of which is sensory in nature....
Pain is a sensation transmitted via nociceptors
Neurotransmitters released with injury

Excitatory Neurotransmitters

Pain pathways can be activated by imagined activities, or observing someone else in pain - there does not have to be noxious stimulus to the individual.

Pathway activation enhanced when a loved one is observed to be in pain.
Inhibitory System

- Release of enkephalin's/endogenous opiates
- Powerful inhibitory effect on pain

There are multiple pain "routes" which can vary depending on the state of the individual, and can enhance or dampen the pain response.

*Bushnell, 2013*
What Makes Pain, “Pain”? 9, 10

ACC and insula-
Limbic
(emotions)

- Affective component - how you “feel” emotionally can increase or decrease the intensity of the pain response
- Chronic pain will activate different pain pathways

9 Bushnell, 2013
From Biomedical to Biopsychosocial Model

Pain stimulus doesn’t change but our reaction to the stimulus can make it better or worse

- Focusing on pain increases the intensity of the pain
- Emotional state effects the unpleasantness of the pain
- Descending pathways can inhibit the pain response
A TYPICAL PAIN NEUROTAG

1. PREMOTOR/ MOTOR CORTEX
   organize and prepare movements

2. CINGULATE CORTEX
   concentration, focusing

3. PREFRONTAL CORTEX
   problem solving, memory

4. AMYGDALA
   fear, fear conditioning, addiction

5. SENSORY CORTEX
   sensory discrimination

6. HYPOTHALAMUS/ THALAMUS
   stress responses, autonomic regulation, motivation

7. CEREBELLUM
   movement and cognition

8. HIPPOCAMPUS
   memory, spatial recognition, fear conditioning

9. SPINAL CORD
   gating from the periphery
Central Sensitization \textsuperscript{10}

- "Central sensitization represents an uncoupling of the clear stimulus response relationship that defined nociceptive pain." \textsuperscript{10}

- Altered central pain modulation
  - Increased responsiveness of CNS nociceptive neurons to normal or subthreshold inputs
  - Changes in spinal and supraspinal pain modulating mechanisms
  - Results in plastic changes – increased excitation and decreased inhibition
Central Sensitization

Patient Presentation:
- Regional or generalized Msk pain, poor sleep, fatigue, sensory disturbances, headache, visceral symptoms
- Chronic pain, fibromyalgia, chronic fatigue syndrome, IBS, OA,

Discrepancy between subjective pain complaints and objective findings
Pain is Complex\textsuperscript{9,10}

- **Biological**
  - Short term (stress cascade, ↓ ability to heal)
  - Central sensitization and neuroplasticity
  - Individual & genetic differences

- **Psychological**
  - Prior experience – trauma
  - Thoughts, feelings, beliefs, coping
  - Cognitive & communication skills

- **Social**
  - Beliefs, stereotypes, attitudes, and disparities
Physical Therapy Management of Chronic Pain in Survivors of Torture and Trauma

- Pain education
- Graded motor imagery
- Exercise
The interaction of Persistent Pain and Post-Traumatic Re-Experiencing: A Qualitative Study

Traumatic memories trigger pain and pain can trigger memories

“So we have decided that I should do some sports, and, you know, gain some strength, but I am worried because when I run I am worried about the pain that will come in my knee, and so, I fear that”

Changed identity can effect activity

“I was very educated, and now I find myself, I can't do anything completely, even I can't help myself with home activities so I need somebody for everything, to help me with bathing, with cooking, with shopping and make me, you know, less, less, yeah, I'm like a hopeless person and I find that I have no future for myself.”
Pain Neuroscience Education\textsuperscript{12,14,15}

Goals

\begin{itemize}
  \item Elicit pain beliefs and address fears, myths, misunderstandings
  \item Educate about the neurophysiology of pain
  \item Desensitize the CNS
  \item Increase movement and function
\end{itemize}
Explaining pain is an effective intervention.

Understanding pain physiology changes the way people think, reduces the threat/fear of movement and perceived danger of pain (e.g., hurt not harm).

Increases self management.

“Targeting the tissues” may increase maladaptive beliefs.

---


1st Edition 2003

2nd Edition 2013

Pain Neuroscience Education in Survivors of Torture

Education as Treatment for Chronic Pain in Survivors of Torture and Other Violent Events in Cambodia: Experiences with Implementation of a Group Based “Pain School” and Evaluation of its Effect in a Pilot Study

34/40 completed the Pain School

Disability rating index (DRI)- all items (except running and outdoor walk) improved significantly

Brief Pain Inventory – reduction of pain scores; significantly reduced “mean pain for last 24 hours”

Conclusions:

- Pain School content was culturally adapted and transferable
- Clients and therapists rated intervention relevant and helpful
- Quantitative outcomes – improvements with significant effect sizes
The Effect of Neuroscience Education on Pain, Disability, Anxiety, and Stress in Chronic Musculoskeletal Pain

Systematic literature review

Examples of Content:
- neurophysiology of pain,
- no reference to biomedical or pathoanatomic models of pain,
- spinal inhibition and facilitation
- plasticity of the nervous system

Conclusion: “For chronic MSK pain disorders, there is compelling evidence that an educational strategy addressing neurophysiology and neurobiology of pain can have a positive effect on pain, disability, catastrophization, and physical performance”*
Graded Motor Imagery

“GMI is an individually tailored treatment process which has successfully been used for persistent and complex pain states”

“It aims to give flexibility and creativity back to the brain via graded exposure”

Evidence for GMI\textsuperscript{17,18}

1) **Sensorimotor returning in complex regional pain syndrome parallels pain reduction**\textsuperscript{17} Pleger

- Subjects with CRPS demonstrated decreased cortical mapping of S1 and S2 and impaired 2 pt discrimination sensation correlating to severe pain
- Underwent 1-6 months of “graded sensorimotor retuning”
- Post fMRI demonstrated restoration of cortical mapping size, decreased pain and improved 2 pt discrimination

2) **Graded motor imagery for pathologic pain.**\textsuperscript{18} Mosely L. Neurology 2006*

- RTC ; Pts with CRPS or phantom limb pain randomly allocated to either GMI or usual PT (2 weeks)
- Statistical difference in pain reduction and functional improvements in GMI group
- Gains maintained at 6 month follow up

- Systematic review found 5 articles identified that met inclusion criteria
- Paucity of research
- + findings in these 5 studies using GMI to treat CLBP
- “interventions which target cortical remapping (such as GMI) have potential for application in the management of CLBP. Real-time lumbar visualisation using mirrors may significantly reduce the severity and duration of movement-associated low back pain, which correlates with previous findings in other chronic pain states such as CRPS"
Research has shown that patients with chronic pain have diminished ability to distinguish between left and right.

This ability appears to be needed for normal recovery from chronic pain.

With practice, it is possible to improve the speed and accuracy in L/R discrimination.
Explicit motor imagery is essentially thinking about moving without actually moving.

“Imagined movements can actually be hard work if you are in pain. This is most likely because 25 percent of the neurones in your brain are 'mirror neurones' and start firing when you think of moving or even watch someone else move (this is why you can feel exhausted after watching an action movie).”

Practice “imagining that you are moving” vs watching or actually moving
Graded Motor Imagery – Mirror Box

- Uses reflection of uninvolved extremity movement to simulate involved extremity - exercising involved hand in the brain w/out actually moving it.
- More advanced and done after L/R discrimination has improved.
Graded Motor Imagery


Material is reproduced with permission of Noigroup Publications.
Initiative on Methods, Measurement and Pain Assessment in Clinical Trials (IMMPACT)\textsuperscript{11}

- Recommends that 6 core outcome domains be considered when designing chronic pain trials
  1. Pain
  2. Physical functioning
  3. Emotional functioning
  4. Participant ratings of improvement and satisfaction with treatment
  5. Symptoms and adverse events
  6. Participant disposition

Turk et al. IMMPACT.org 2003
Brief Pain Inventory\textsuperscript{11,12,79,80}

\begin{itemize}
  \item Assesses intensity of pain and interference of pain on function
  \item 5 minutes to complete, easy to score
  \item Pain severity score (average of the 4 pain questions)
  \item Pain interference score (average of the 7 interference questions)
  \item Has been used in Cambodia to assess Danish DIGNITY Institute Against Torture Pain School\textsuperscript{12}
  \item Recommended for use by the IMMPACT group
\end{itemize}
Brief Pain Inventory (Short Form)

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and backaches). Have you had pain other than these everyday kinds of pain today?
   1. Yes  2. No

2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts the most.

3. Please rate your pain by circling the one number that best describes your pain at its worst in the last 24 hours.
   0  1  2  3  4  5  6  7  8  9  10
   No Pain  Pain as bad as you can imagine

4. Please rate your pain by circling the one number that best describes your pain at its best in the last 24 hours.
   0  1  2  3  4  5  6  7  8  9  10
   No Pain  Pain as bad as you can imagine

5. Please rate your pain by circling the one number that best describes your pain on the average.
   0  1  2  3  4  5  6  7  8  9  10
   No Pain  Pain as bad as you can imagine

6. Please rate your pain by circling the one number that tells how much pain you have right now.
   0  1  2  3  4  5  6  7  8  9  10
   No Pain  Pain as bad as you can imagine

7. What treatments or medications are you receiving for your pain?

8. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received.
   0%  10%  20%  30%  40%  50%  60%  70%  80%  90%  100%
   No Complete Relief

9. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

   A. General Activity
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interferes
   B. Mood
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere
   C. Walking Ability
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere
   D. Normal Work (includes both work outside the home and housework)
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere
   E. Relations with other people
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere
   F. Sleep
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere
   G. Enjoyment of life
      0  1  2  3  4  5  6  7  8  9  10
      Does not Interfere

Copyright 1992 Charles S. Cleeland, PhD
Pain Research Group
All rights reserved.
PROMIS 29\textsuperscript{22-24}

- NIH initiative to create standardized tools to enhance patient reported outcome measures
- Goal to provide researchers and clinicians a reliable and valid set of measures that are universal, not disease specific
- Patient Reported Outcome Measurement Information System
  - Item banks for each patient reported outcome measured
  - Each bank has multiple items that vary in terms of content and severity
  - All items reviewed to ensure that patient of diverse backgrounds can comprehend the questions
PROMIS 2981-83

7 domains
1. Physical function
2. Anxiety
3. Depression
4. Fatigue
5. Sleep disturbance
6. Satisfaction with social role
7. Pain interference
   Pain intensity 0-10 scale

- Assessment center can generate data report
- Converts raw score into T-score
- Sample testing was done on large US population
- T score rescales data into standardized score with a mean of 50 and SD of 10
PROMIS-29 Profile v1.0 Report

Your age: 45  
Your gender: Female

For every questionnaire, the average score is 50 in the US general population.

---

Your estimated score on the Anxiety/Fear questionnaire is 51. Your estimated score indicates that your level of Anxiety/Fear is higher (worse) than:
- 54 percent of people in the general population
- 47 percent of people age 45-54
- 49 percent of females

Your estimated score on the Depression/Sadness questionnaire is 52. Your estimated score indicates that your level of Depressive Symptoms/Sadness is higher (worse) than:
- 58 percent of people in the general population
- 50 percent of people age 45-54
- 54 percent of females

Your estimated score on the Fatigue questionnaire is 34. Your estimated score indicates that your level of Fatigue is higher (worse) than:
- 5 percent of people in the general population
- 4 percent of people age 45-54
- 4 percent of females

Your estimated score on the Pain Interference questionnaire is 61. Your estimated score indicates that your level of Pain Interference is higher (worse) than:
- 82 percent of people in the general population
- 73 percent of people age 45-54
- 80 percent of females

Your estimated score on the Physical Function questionnaire is 57. Your estimated score indicates that your level of Physical Function is higher (better) than:
- 79 percent of people in the general population
- 79 percent of people age 45-54
- 82 percent of females

Your estimated score on the Satisfaction with Social Roles questionnaire is 29. Your estimated score indicates that your level of Satisfaction with Social Roles is higher (better) than:
- 3 percent of people in the general population
- 2 percent of people age 45-54
- 3 percent of females
Biopsychosocial Model of Health

- **Biological**
  - Illness
  - Disability
  - Genetic issues

- **Social**
  - Gender
  - Economic status
  - Religion
  - Peer Group
  - Relationships
  - Culture

- **Psychological**
  - Attitude
  - Behavior
  - Personality
  - Self-esteem
  - Self-control
  - Impulsivity

**Health**
Refugees Have Higher Rates of Psychological Conditions:
- Major Depressive Disorder
- Generalized Anxiety Disorder
- Post-Traumatic Stress Disorder

Non-Communicable Diseases:
- Cardiovascular disease
- Diabetes
- Hypertension
- Irritable bowel syndrome
- Asthma
- Chronic Pain

Poor Health Behaviors:
- Obesity
- Sedentary lifestyle
- Medication non-adherence
- Smoking
- Drug and alcohol abuse
- Sleep disorders
Catastrophizing
Hypervigilance
Hyperarousal
Reduced activity levels
Fear and avoidance
Social isolation
Poor health behaviors

Post Traumatic Stress Disorder

Major Depressive Disorder

Non Communicable Diseases

Generalized Anxiety Disorder

Chronic Pain
The brain changes in response to pain.

The brain changes in response to trauma.
Trauma and the Brain

- Long term changes after psychological trauma
- Dysregulation of neurochemical systems
- Alterations in brain function
- Alterations in brain structure
Post-Traumatic Stress Disorder

- **Traumatic event is re-experienced**
  - Intrusive thoughts
  - Nightmares
  - Flashbacks

- **Avoidance of trauma-related stimuli**
  - Avoid thoughts and feelings related to trauma
  - Avoid reminders of trauma

- **Negative thoughts or feelings**
  - Exaggerate blame of self or others
  - Negative affect
  - Overly negative thoughts and assumptions about oneself and the world
  - Feeling isolated

- **Hyperarousal and increased reactivity**
  - Irritability or agrees ion
  - Hypervigilance
  - Risky or destructive behavior
  - Difficulty sleeping
  - Heightened startle reaction
**How does your brain change with PTSD?**

**Hippocampus Shrinks**

This area helps us distinguish between past and present memories.

**Increased Activity in the Amygdala**

Helps us process emotions and is also linked to fear responses.

**Ventromedial Prefrontal Cortex Shrinks**

This region regulates negative emotions that occur when confronted with specific stimuli.
Trauma and the Brain

Social rejection, exclusion, and loss activate neural regions that are involved in physical pain processing.

- Individuals more sensitive to one, would be more sensitive to the other.
- Factors that change one, should change the other.
Trauma and the Brain

- Neuroimaging evidence shows that treatment can reverse and normalize changes in the brain.
Discussion: How will your assessment apply the biopsychosocial model?

- Recognizing that the client may have a history of trauma, how will your assessment be different?

- In the social and psychological realms, what are you assessing for?

- What outcome measures and screening tools within these realms do you have experience with?
Recognizing that the client may have a history of trauma, how will your assessment be different? 

- **Psychologically informed practice**
  - Routine identification of modifiable psychological risk factors and modified treatment to address those factors

- **Trauma-informed care**
  - Organization structure and treatment framework that involves understanding, recognizing, and responding to the effects of all types of trauma
  - Can be implemented in any type of service or setting or organizing
  - Distinct from trauma-specific interventions
Establish environment where client feels safe, connected, valued, informed, empowered, and hopeful of recovery

Apply the knowledge of trauma and paths to recovery

Recognize the signs and symptoms of trauma

Work to promote and protect the autonomy of clients

Apply the knowledge that services can retraumatize clients

Practice culturally competent and nondiscriminatory practices
### Discussion: In the social and psychological realms, what are you assessing for?

<table>
<thead>
<tr>
<th>Orange</th>
<th>Psychiatric symptoms</th>
<th>Clinical depression, personality disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>Beliefs, appraisals, and judgments</td>
<td>Unhelpful beliefs about pain: indication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of injury as uncontrollable or likely to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>worsen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expectations of poor treatment outcome,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>delayed return to work</td>
</tr>
<tr>
<td>Emotional responses</td>
<td></td>
<td>Distress not meeting criteria for diagnosis of mental disorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worry, fears, anxiety</td>
</tr>
<tr>
<td>Pain behavior (including pain coping strategies)</td>
<td></td>
<td>Avoidance of activities due to expectations of pain and possible reinjury</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Over-reliance on passive treatments (hot packs, cold packs, analgesics)</td>
</tr>
<tr>
<td>Flag</td>
<td>Nature</td>
<td>Examples</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Red</td>
<td>Signs of serious pathology</td>
<td>Cauda equina syndrome, fracture, tumor</td>
</tr>
<tr>
<td>Orange</td>
<td>Psychiatric symptoms</td>
<td>Clinical depression, personality disorder</td>
</tr>
<tr>
<td>Yellow</td>
<td>Beliefs, appraisals, and judgments</td>
<td>Unhelpful beliefs about pain: indication of injury as uncontrollable or likely to worsen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expectations of poor treatment outcome, delayed return to work</td>
</tr>
<tr>
<td></td>
<td>Emotional responses</td>
<td>Distress not meeting criteria for diagnosis of mental disorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worry, fears, anxiety</td>
</tr>
<tr>
<td></td>
<td>Pain behavior (including pain</td>
<td>Avoidance of activities due to expectations of pain and possible reinjury</td>
</tr>
<tr>
<td></td>
<td>coping strategies)</td>
<td>Over-reliance on passive treatments (hot packs, cold packs, analgesics)</td>
</tr>
<tr>
<td>Blue</td>
<td>Perceptions about the relationship</td>
<td>Belief that work is too onerous and likely to cause further injury</td>
</tr>
<tr>
<td></td>
<td>between work and health</td>
<td>Belief that workplace supervisor and workmates are unsupportive</td>
</tr>
<tr>
<td>Black</td>
<td>System or contextual obstacles</td>
<td>Legislation restricting options for return to work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conflict with insurance staff over injury claim</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overly solicitous family and health care providers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heavy work, with little opportunity to modify duties</td>
</tr>
</tbody>
</table>
Discussion: What outcome measures and screening tools within these realms do you have experience with?
Orange Flags: Depression


- Formal depression tests are rarely used: Beck Depression Inventory
- Physical therapists are poor at screening for symptoms of depression
- 2-item screening for depression
  - “During the past month, have you often been bothered by feeling down, depressed, or hopeless?”
  - “During the past month, have you often been bothered by little interest or pleasure in doing things?”
- Negative response to both questions: depression is unlikely
- Positive answers to questions: if progress is not made, then complete Depression Anxiety Stress Scales (DASS-21), refer when scores are in moderate or more severe categories
Orange Flags: PTSD\textsuperscript{47,48}

Primary Care PTSD Screen (PC-PTSD)

http://www.ptsd.va.gov/professional/provider-type/doctors/screening-and-referral.asp

- In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, in the past month, you:

  - Have had nightmares about it or thought about it when you did not want to?
  - Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
  - Were constantly on guard, watchful, or easily startled?
  - Felt numb or detached from others, activities, or your surroundings?

- The PC-PTSD should be considered "positive" if a patient answers "yes" to any three items.

- A positive response to the screen does not necessarily indicate that a patient has PTSD.

- A positive response indicates that a referral to a mental health professional should be made.

- Those who screen positive for PTSD should be explicitly screened for suicidal ideation as well.
Yellow Flags: Fear Avoidance

- Questionnaires related to fear avoidance model

Study investigated:

- Fear-Avoidance Beliefs Questionnaire (FABQ)
- Fear of Pain Questionnaire (FPQ)
- Tampa Scale for Kinesiophobia,
- Pain Catastrophizing Scale.

Study Recommended:

- PCS for emotional function
- FABQ for pain intensity and physical functioning.
Many options in literature:

- STarT Back Screening Tool
- Örebro Musculoskeletal Pain Screening Questionnaire
- Pain Anxiety Symptoms Scale
- Pain Self-Efficacy Questionnaire
- Self-Efficacy for Rehabilitation Outcome Scale
- Chronic Pain Acceptance Questionnaire

What to consider:

- Targeted interventions for identified risk factors is more effective than ignoring risk factors or providing omnibus interventions regardless of risk factors
- Identifying risk factors is an essential first step
- Consider your setting, clinical experience, and client to select the most appropriate screening tool and outcome measure
Case Study

Fear-Avoidance Beliefs Questionnaire (FABQ)
- Recommended for pain intensity and physical functioning

Patient Health Questionnaire-15 (PHQ-15)
- Somatic symptom severity scale

Pain Catastrophizing Scale (PCS)
- Recommended for emotional component
FABQ\textsuperscript{52} 

<table>
<thead>
<tr>
<th>Completely disagree</th>
<th>Unsure</th>
<th>Completely agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. My pain was caused by physical activity ........................................
2. Physical activity makes my pain worse ...........................................
3. Physical activity might harm my back ...........................................
4. I should not do physical activities which (might) make my pain worse
5. I cannot do physical activities which (might) make my pain worse......

6. My pain was caused by my work or by an accident at work ............
7. My work aggravated my pain .........................................................
8. I have a claim for compensation for my pain ..............................
9. My work is too heavy for me ....................................................... 
10. My work makes or would make my pain worse ..............................
11. My work might harm my back ......................................................
12. I should not do my normal work with my present pain ................
13. I cannot do my normal work with my present pain ......................
14. I cannot do my normal work till my pain is treated ...................
15. I do not think that I will be back to my normal work within 3 months.
16. I do not think that I will ever be able to go back to that work .......
PHQ-15

During the past 4 weeks, how much have you been bothered by any of the following problems?

a. Stomach pain
b. Back pain
c. Pain in your arms, legs, or joints (knees, hips, etc.)
d. Menstrual cramps or other problems with your periods (WOMEN ONLY)
e. Headaches
f. Chest pain
g. Dizziness
h. Fainting spells
i. Feeling your heart pound or race
j. Shortness of breath
k. Pain or problems during sexual intercourse
l. Constipation, loose bowels, or diarrhea
m. Nausea, gas, or indigestion
n. Feeling tired or having low energy
o. Trouble sleeping
PCS

0 – not at all  1 – to a slight degree  2 – to a moderate degree  3 – to a great degree  4 – all the time

When I’m in pain …

1. I worry all the time about whether the pain will end.
2. I feel I can’t go on.
3. It’s terrible and I think it’s never going to get any better.
4. It’s awful and I feel that it overwhelms me.
5. I feel I can’t stand it anymore.
6. I become afraid that the pain will get worse.
7. I keep thinking of other painful events.
8. I anxiously want the pain to go away.
9. I can’t seem to keep it out of my mind.
10. I keep thinking about how much it hurts.
11. I keep thinking about how badly I want the pain to stop.
12. There’s nothing I can do to reduce the intensity of the pain.
13. I wonder whether something serious may happen.
Document Your Decision

Keep, Refer, or Keep and Refer. If referring, what is the specific referral?

Why? What is your reasoning?
Conclusions From Measures

FABQ
- Positive for yellow flags
- Risk for prolonged disability
- Consider contribution of beliefs, fears, and avoidance patterns
- Consider multidisciplinary treatment

PHQ-15
- High severity is associated with functional impairment, disability, and health care utilization
- Consider contribution of memory, emotions, and context
- Consider multidisciplinary treatment

PCS
- Consider referral for orange flags
- Consider multidisciplinary treatment
Pain/Symptoms

- Deconditioning
- Context
- Sensitivity of the nervous system
- Brain adaptations
- Tissue involvement
- Emotions
- Memory
What if the doctor confirms no signs of cardiovascular disease....

Differential diagnosis:
- PTSD, hyperarousal, panic attacks
- Symptoms of dissociation
- Somatic symptoms
Post-Traumatic Stress Disorder

Traumatic event is re-experienced
- Intrusive thoughts
- Nightmares
- Flashbacks

Avoidance of trauma-related stimuli
- Avoid thoughts and feelings related to trauma
- Avoid reminders of trauma

Negative thoughts or feelings
- Exaggerate blame of self or others
- Negative affect
- Overly negative thoughts and assumptions about oneself and the world
- Feeling isolated

Hyperarousal and increased reactivity
- Irritability or agrees ion
- Hypervigilance
- Risky or destructive behavior
- Difficulty sleeping
- Heightened startle reaction
Hyperarousal and increased reactivity

- Irritability or agitation
- Hypervigilance
- Risky or destructive behavior
- Difficulty sleeping
- Heightened startle reaction
- Difficulty concentrating

Panic attacks: an abrupt surge of intense fear or discomfort

- Palpitations, pounding heart, or accelerated heart rate
- Sweating
- Trembling or shaking
- Sensations of shortness of breath or smothering
- Chest pain or discomfort
- Nausea or abdominal distress
- Feeling dizzy, unsteady, lightheaded, or faint
- Chills or heat sensations
- Paresthesias (numbness or tingling sensations)
- Feelings of unreality or being detached from oneself
- Fear of losing control or going crazy
- Fear of dying
Shortness of breath, chest heaviness, sweating, muscle tension

Chronic hyperarousal is an abnormal state of activation that occurs after trauma.
Dissociative Symptoms

- Physical and psychological dysfunction
- Poor concentration and memory
- Affect dysregulation
- Somatic complaints
- Chronic pain
- Inability to differentiate relevant and irrelevant physical sensations

A result of an altered state of awareness that change’s one’s sense of identity.
Survivors of Rape and Sexual Abuse

Dissociative symptoms contribute to:
- Chronic pain
- Poor body image
- Urinary incontinence
- Chronic pelvic pain
- Irritable bowel syndrome
- Sexual problems
Somatic Symptoms

- Medically Unexplained Symptoms
- Cultural idioms of distress
- Symptoms of social positioning "Sick-role"
- Somatic presentations of anxiety or other psychopathology
An expression of distress that is understandable within the individual's society and culture

May have different meaning to someone outside that culture

Embody combinations of somatic, emotional, and social meaning

Somatic Symptoms

Medically Unexplained Symptoms

Cultural idioms of distress

Symptoms of social positioning “Sick-role”

Somatic presentations of anxiety or other disorders
Case: In the middle east, “heart distress” represents loss and grief

“I feel like something is leaving my heart. It feel like the beats are not normal.

“Sometimes this happens when I am sitting down, sleeping, getting angry. Sometimes when I am sitting I feel like my heart has stopped. I don’t know when or why.”

“I can’t do anything that makes my chest heavy. So I can’t take care of my home. My chest pain is the worst problem and then my back.”

PHQ-15

High somatic symptom severity
“I saw firsthand and on a daily basis how being attentive to idioms of distress led me to examine more closely interpersonal, social, political, economic and spiritual sources of distress, to appreciate tacit communication and to pay attention to cultural dimensions of illness experiences as well as responses to therapeutic interventions, from nosology to treatment to sick and risk role identities.”
Case Study: Confirmed Cardiovascular Disease

Treatment planning:
- Referral for cardiovascular care
- Self monitoring with Borg Scale
- Plan for counseling and PT groups
- Education on use of medication
- Education on emergency room use
Case Study:

Symptoms consistent with:

- Chronic pain
- Anxiety
- PTSD
- Depression
- Cardiovascular disease (Non communicable disease)
- Hyperarousal
Therapeutic Exercise

- Chronic pain
- Anxiety
- PTSD
- Depression
- Cardiovascular disease (Non communicable disease)
- Hyperarousal
Evidence for Therapeutic Exercise

- Aerobic exercise
- Interoceptive exposure
- Progressive Exercise
- Graded Exercise
Aerobic Exercise

- Chronic pain
- Hyperarousal
- Anxiety
- Depression
- PTSD
- Cardiovascular disease (Non-communicable disease)
Aerobic Exercise

- Exercise induced analgesia
- Decrease pain and improve function
- Alters fears and beliefs about pain
- Addresses deconditioning

Chronic pain

Hyperarousal
Anxiety
Depression
PTSD
Cardiovascular disease (Non communicable disease)
Aerobic Exercise

Chronic pain
Anxiety
PTSD
Depression
Hyperarousal
Cardiovascular disease (Non-communicable disease)

Reduced PTSD symptoms and fear of arousal related somatic sensation
Compared to standard treatment programs

Stationary biking; Resistance training; Walking program
Children, Adolescents, adults

PTSD

68-70
Refugees with trauma: improved coping strategies and pain and mental health status

Aerobic Exercise

Chronic pain

Hyperarousal

Depression

Cardiovascular disease (Non communicable disease)

Anxiety

PTSD

Share avoidance and fear based processes

Interdisciplinary treatment

With combat related PTSD: protected from future development of fibromyalgia
High and low intensity aerobic exercise

Aerobic Exercise

- Chronic pain
- Hyperarousal
- Depression
- Cardiovascular disease (Non communicable disease)
- PTSD
- Anxiety

Reduced symptoms and improved function

Reduces fear of anxiety-related bodily sensations
Aerobic Exercise

Greater reduction in PTSD hyperarousal symptoms

Reduces attention and fear of somatic arousal symptoms

- Hyperarousal
- Chronic pain
- Anxiety
- Depression
- PTSD
- Cardiovascular disease (Non communicable disease)
Children, adolescents, and adults

Higher resilience against depression

Aerobic Exercise

- Chronic pain
- Anxiety
- PTSD
- Hyperarousal
- Cardiovascular disease (Non communicable disease)

Effective treatment for depression

Depression$^{75,76,78}$
Interoceptive Exposure

- Exposing the client to psychophysiological effects of anxiety and stress:
  - Increased heart rate
  - Shortness of breath
  - Chest heaviness
  - Chest pan
  - Fear of pain and discomfort
  - Stomach cramping
  - Recalling memories
Role of Interdisciplinary Treatment

Physical Interoceptive exposure and education

Emotional interoceptive exposure and education
Progressive Exercise

- Graded activity: Expose clients to a range of functional activities and exercises in a progressive manner

- Graded exposure: Expose clients to specific activities or movements that they are afraid of
Key Resources

- Healtorture.org
- Interventions for physiotherapists working with torture survivors. With special focus on chronic pain, PTSD, and sleep disturbances. Praxis paper: https://dignityinstitute.org/resources/other-publications/international-publication-series/dignity-publication-series-on-torture-and-organised-violence-no-6/
References


References


References


32. Patricia Ribeiro Porto, M.S., Leticia Oliveira, Ph.D., Jair Mari, Ph.D., Eliane Volchan, Ph.D., Ivan Figueira, Ph.D., and Paula Ventura, Ph.D.


References


References


References


