Integrating Dance/Movement Therapy, Guided Imagery and Mindfulness into PT Treatment of Pain

Rivi Belach Har-El, PhD, RPT
RiVision Healing Center
New York, NY
Clinical Assistant Professor
SUNY-Downstate, Brooklyn, New York

Illustrations by Ziv Lenzner-Lenzner Anatomy
Learning Objectives:

**Practice** therapeutic exercises in the form of Dance/Movement Therapy (DMT), Guided Imagery (GI) and Mindfulness activities to improve pain, mobility, mood and wellbeing in people of various ages, background, and physical and emotional states.

**Discuss** benefits of therapeutic exercises in the form of DMT, GI, and Mindfulness as a group therapeutic activity on pain, mobility, endurance and wellbeing.

**Explain** the impact of repetitive movement patterns and expansion of movement capabilities on health, wellness, and physical functioning.
The Live Experience of Dance/Movement Therapy
What is Dance Movement Therapy?

DMT is a form of intervention that uses movement rather than words as the primary medium for assessment, insight, and change. It starts at the patient’s physical and emotional level and allows for change, growth, and the expansion of movement and extension of self (Schmais, 1974)

DMT furthers the emotional, cognitive, physical and social integration of the individual according to the American Dance Therapy Association (2011)
Basic Premise of DMT

*There is no division between mind and body behaviour. Body movement reflects emotional states, and changes in movement behaviour can lead to change in the psyche.*

What happen to your body when you are:
- Relax/tense
- Happy /sad
- Secure/insecure……..
## Event/Interaction-Feelings-Sensations

<table>
<thead>
<tr>
<th>Event/Interaction</th>
<th>Feelings</th>
<th>Sensations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Basic Premise of DMT

- Approach that addresses the complexities of the human movement experience, pain and pain management
- Integrates treatment of physical and psychosocial/emotional aspects of pain
- Mindfulness aspect that improves awareness of conscious and subconscious processes contributing to pain
- Relates the total movement experience to current physical and emotional function
DMT as Therapeutic Modality for Treating Pain

- Patient/Client centered
  - Individualized even in a group setting
- Safe environment in which to explore movement
  - Alternative to typical gym
  - Access to the expert
  - Recruit more patients
- Use of music and movement rather than words to shift mood
- Alternative to opioids
- Therapeutic exercise CPT codes (individual or group) for insurance coverage
Dance/Movement Therapy As Therapeutic Exercises

- Explore the participant’s dominant pattern of motion (repetitive style) based on ROM and planes of motion (vertical, sagittal, horizontal)
- Balance and coordination exercises
- Use music that has some positive meaning to the participant.
- Relate to function
- Relate to others in group
- Explore transitions between movements
Dance/Movement Therapy As Therapeutic Exercise

- Use repetitive rhythmic motions when using the following movement factors:
  1) Fine (light/weak)-------------------Firm (heavy/strong)
  2) Sudden (quick speed)------------Sustained (slow speed)
  3) Direct (straight line)----------Indirect (wave-like)
  4) Bound Flow-------------------Free Flow
Relating to Experiential Work

- What did you sense (physical sensations)
- What did you feel (emotions)
- What body motions did you notice
  - Direction
  - Patterns and flow of movement through the body
Symbolic value for the individual
Comfort level
  - With self
  - With others in group
Sense of well-being
DMT Integrated with Guided Imagery (GI)

- Using images (thoughts) that draw on our senses. They may involve one, several, or all the following senses:
  - *Hearing*
  - *Taste*
  - *Movement*
  - *Vision*
  - *Touch*
  - *Smell*
  - *Internal sensations*
The goal of GI is to make beneficial physical changes in the body by repeatedly visualizing the sensations associated with a particular experience.

- An image, like any other thought, sparks an electrical chain of events in the brain.
- Imagery influences endorphin secretions which then affects a person’s mood.

Relate GI to the experiential work.
DMT Integrated with Guided Imagery (GI)

- The goal of GI is to make beneficial physical changes in the body by repeatedly visualizing the sensations associated with a particular experience.
  - Dancing and music elicit happy memories/times
  - Imagery influences endorphin secretions which then affects a person’s mood

- Relate GI to the experiential work
(Cont’d) DMT Integrated with Guided Imagery (GI)

“See in” pictures your pain

- Learn to remove the obstacle and pain away
- Learn to alter emotion/motion by altering an image
- Relate GI to the experiential work
Vision Statement for the Physical Therapy Profession

- Transforming society by optimizing movement to improve the human experience.
  - Terrence M. Nordstrom, PT, EdD
  - APTA's House of Delegates (House) in 2013.
Research support for:

Dance/Movement Therapy, Guided Imagery and Neuroplasticity on mood, pain, mobility/flexibility, well being and more
Evidence for
Dance /Movement Therapy and
Dance
Efficacy of DMT and Dance

- **Koch et al, 2014**
  - Found DMT and dance are effective for increasing quality of life, decreasing depression and anxiety; as well as increasing well being, positive mood, affect and body image
  - Based on a meta analysis from 23 primary trails, (N=1078)

- **Bruaninger, 2012**
  - 162 participants who suffered from stress were randomly assign to DMT or control group.
  - It was found that DMT was effective in the short and long term improvement of Quality of life on six domains: physical and psychological health, level of independence social relations, environment and spirituality/personal beliefs
Efficacy of Guided Imagery

- Giacobbi, 2015
  - Systemic review of randomized controlled trials (1960-2013) that examined the effects of GI on pain, function, anxiety, depression and quality of life in adults with arthritis and other rheumatic diseases
  - Reported statistically significant improvement in outcomes

- Onieva-Zafra, 2015
  - Sixty patients who diagnosed with Fibromyalgia were randomly assigned to either GI or control group.
  - The treatment group reported statistically significantly lower levels of pain and depression than the control group at 4 week evaluation
Mindfulness & Regional Brain Gray Matter Density

- Holzel, 2011
  - Functional and structural neuroimaging studies (2005-2010) suggest that mindfulness practice is associated with neuroplastic changes in the brain

- Lazar, 2005
  - Increased thickness of cortical structure, i.e., gray matter, associated with body awareness, emotion regulation, change in self perception
  - The brain region associated with attention, introspection and sensory processing was thicker among 20 participants who practiced meditation extensively as compared to the control group
Rivi Belach Har-El, Doctor of Philosophy, 2000

Major: Pathokinesiology

Title of Dissertation:
INFLUENCE OF NECK EXERCISES, COMBINED WITH EITHER THE CHACE TECHNIQUE OF DANCE THERAPY OR AEROBIC TRAINING, ON PAIN PERCEPTION, MOOD STATE, AND CERVICAL RANGE OF MOTION OF ADULTS WITH CHRONIC MECHANICAL NECK PAIN

Committee Chair: Dr. Arthur J. Nelson
Theoretical Bases For Using Dance Movement Therapy and Guided Imagery to Treat Pain Impairments

- The muscle tension theory
- The therapy of catharsis and spontaneous expression in movement
- The use of guided imagery
- Neuroplasticity
Theoretical Bases For Using Dance Movement Therapy and Guided Imagery to Treat Pain Impairments

Payne, 1992
The effect of Chace technique of DMT on mood can be explained by the theory of catharsis and spontaneous expression through movement. Leste and Rust (1984) theorized that the catharsis nature of dance, with its concomitant emotional expression, release of tension, anger or frustration, can alter the individual’s mood. It is postulated that in DMT, the spontaneous, pleasurable expenditure of energy offers relaxation and the sublimation of worries.
Theoretical Bases For Using Dance Movement Therapy and Guided Imagery to Treat Pain Impairments

- Achterberg, Dossy, & Kendkmeier, 1994, p. 38

**Deliberate use of imagery**- “images are thought that draw on senses: they may involve one, several or all the following senses: sound, taste, movement, vision, touch and inner sensation.”

- Zahourek, 1988, p. 63

An image, like any other thought, sparks an electromechanical chain of events in the brain. “Images stimulate biochemical reactions in the brain that then affect several master glands that in turn influence feelings states and behavior.” (Zahourek, 1988, p. 63). For example, imagery influences endorphin secretion which then affects the person’s mood.
Theoretical Bases For Using Dance Movement Therapy and Guided Imagery to Treat Pain Impairments

The dance itself allows for emotional release, which can influence the individual’s flexibility and range of motion.

- (Chapman, 1990) **The muscle tension theory** which attempts to explain why mood and pain frequently coexist suggests that anxiety, which is frequently associated with depression, can elicit increased muscle tension.

- Thompson (1988) described an elevated skeletal muscle activity that may represent the participant's attempt to inhibit the expression of emotions. Wright and Mitschel (1982) described patients who had difficulty expressing emotions who also increased tension in their muscles.
Theoretical Bases For Using Dance Movement Therapy and Guided Imagery to Treat Pain Impairments

- **Neuroplasticity** - A growing body of literature has demonstrated that neural systems are modifiable networks and changes in neural structures can occur in adults as a result of mindfulness practice. (Holzel, 2011; Lazer, et al. 2005; Pagnoni and Cekic 2007) Several cross-section anatomical magnetic resonance imaging (MRI) studies have demonstrated that experienced meditators exhibit a different gray matter density in multiple brain regions when compared to non-meditating participants.
Reference List:


Case study 2- Betty
23 y/o woman with chronic shoulder and neck pain.
Poor self esteem and body awareness