Using Guided Imagery to Reduce Pain and Anxiety

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CHI St. Luke’s Health
Baylor St. Luke’s Medical Center

Texas Medical Center

1st in Texas
4th Consecutive Designation

CHI St. Luke’s Health
Baylor St. Luke’s Medical Center
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Conflict of Interest Disclosure

No employment relationship with a commercial interest.
No leadership position with a commercial interest.
No research funding from a commercial interest.
No consultant or advisory position.
No commercial interest speaker’s bureau.
No stock or investment holdings.
No other compensation.
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Using Guided Imagery to Reduce Pain and Anxiety

Objectives

Identify the impact of pain on physiological and psychological functioning.

Describe the effect of guided imagery on pain, anxiety, and medication use.
I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.

Maya Angelou
What is Integrative Medicine?

**Definition**

- Practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals and disciplines to achieve optimal health and healing.
- Group of diverse medical and health care systems, practices, & products that are not presently considered to be part of conventional medicine.
- Frequently called Complementary & Alternative Medicine (CAM)
- Complementary Medicine
  - Used with conventional medicine
- Alternative Medicine
  - Used instead of conventional medicine

Who uses integrative medicine?

• Older women
• Middle-aged to younger seniors (40-69 years)
• Higher income
• Higher education
• Poorer health status
• Non-urban or rural areas
• Ethnic minority groups

Why is integrative medicine used?

• Dissatisfaction with conventional medicine & practitioners
• Postpone age-related deterioration & mortality
• Natural medicines are accessible, safe, & effective
• Autonomy over health care decisions
• Manage pain from acute and chronic conditions

What Is Pain?

Definition

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

Classified as:
- Acute
- Acute exacerbation of recurring condition
- Chronic
- Cancer

Incidence of Pain Compared to Other Major Conditions

Institute of Medicine, 2011
Impact of Pain

Negative impact on physiological functioning
• Cardiac
• Respiratory
• Metabolic
• GI
• Mobilization

Psychosocial consequences

Uncontrolled acute pain can lead development of chronic pain

Age, racial & gender disparities

Increased use of health care

Dunwoody et al., 2008; Von Korff et al., 2007; Staton et al., 2007; Teno et al., 2004
Cost of Pain

Gaskin, D.J. & Richard, P., 2012
38% of American adults use some form of CAM

CAM use accounts for $33.9 billion total health care expenditures

Painful conditions are number one reason adults report for using CAM

National Center for Complementary and Alternative Medicine, 2007 & 2009
\textbf{Pain \\& Anxiety Connection}

- Relationship between anxiety, depression, \\& pain
- Pain 2 X more prevalent with generalized anxiety disorder
- 54\% w/ pain also had anxiety vs. 21\% w/o pain
- Association between pain \\& anxiety greater than association between pain \\& depression
- Higher health care cost for dx. anxiety disorder \\& pain
- 50\% of chronic pain patients have anxiety

Haug et al., 2004; Romera et al., 2010; Olfson \\& Gameroff, 2007; McWilliams, Goodwin \\& Cox, 2004; Zhu et al., 2009; Singh, 2012
Physiological Link

Pain & Anxiety

- Hippocampus plays role in ability to process pain
- Pain related anxiety increases perceived pain intensity
- Adaptation to the worst possible outcome & accompanied by anxiety

Lathe, 2001; Ploghaus et al., 2001
Guided Imagery Study

Purpose
• Examine impact of guided imagery on:
  o Pain
  o Anxiety
  o Medication use

Population:
• Adult inpatients
• Tertiary care hospital
Clinical Questions

• What is the impact of guided imagery on pain scores in adult patients in an acute care facility?

• What is the impact of guided imagery on anxiety in adult patients in an acute care facility?

• What is the impact of guided imagery on analgesic usage in adult patients in an acute care facility?

• What is the impact of guided imagery on anti-anxiolytic usage in adult patients in an acute care facility?
Guided Imagery

Definition

• Purposeful use of the imagination, using words and phrases designed to evoke rich, multisensory fantasy and memory

• Program of directed thoughts and suggestions that guide your imagination toward a relaxed, focused state.

• Guided imagery experience

Bonadies, 2009
WebMD Medical Reference from Healthwise
Guided Imagery in Cancer Pain Management

• Could be beneficial in reducing pain
• Reduced distress, fatigue, & sleep disturbances
• Anxiety was not addressed

Graffam & Johnson, 1987; Syrjala et al., 1995; Kwekkeboom et al., 2008; Kwekkeboom et al., 2010
Guided Imagery in Surgical & Procedural Pain Management

Positive Impact
• Shorter procedure times
• Less analgesic use
• Lower pain scores
• Reduced anxiety
• Reduced length of stay
• Lower pharmacy costs

No Impact
• Pain scores
• Anxiety scores
• Patient satisfaction

Systematic review in cardiac surgery patients
• Mixed findings

Positive Results: Lang, 2000; Halpin et al., 2002; Gonzales et al., 2010; Lin, 2011:
No Impact: Danhauer et al., 2007; Thomas & Sethares, 2010:
Systematic Review: Casida & Lemanski, 2010
Guided Imagery in Chronic Pain Management

Fibromyalgia
• Decrease pain scores; improved functional status; improved self-efficacy in managing pain & other symptoms
• No changes in psychological distress

Osteoarthritis
• Decrease pain scores; increase mobility; decreased OTC & prescription analgesia use

Non Cancer Pain
• Reduced pain & pain disability scores
• No changes in biological markers (plasma cortisol, lymphocyte subset counts & proliferation, & interleukin-1 β

Menzies & Kim, 2008; Baird et al., 2010; Lewandowski et al., 2011; Chen & Francis, 2010; Bernardy et al., 2011; Posadzki et al., 2012
Guided Imagery in Chronic Pain Management

Pain lasting > 3 months
- Decrease in pain scores, mental stress, & increases in quality of life

Systematic Reviews
- Fibromyalgia: Reduced pain
- Non-musculoskeletal pain: Reduced pain

Menzies & Kim, 2008; Baird et al., 2010; Lewandowski et al., 2011; Chen & Francis, 2010; Bernardy et al., 2011; Posadzki et al., 2012
Subjects

• Hospitalized patients
• 18 years & older
• English speaking
• Males & females
• Any ethnic background
• Medical, surgical, or oncology diagnosis
• Referred to APRN-led pain management program
**Measurement Tools**

Self-reported pain scores
- 0 (no pain) to 10 (worst pain)
- $r = 0.91$

Beck Anxiety Inventory
- 4 point Likert scale
- $r = 0.75$

Morphine Equivalent Daily Dose (MEDD)
- Conversion of analgesic dosing to a standard morphine equivalent dose

Downie et al., 1978; Beck et al., 1988
**Intervention**

- Pain Score
- Anxiety Score
- Medication Use

Pre Intervention Measurements

Guided Imagery
- MP-3 Player
- 40 Minute Recording
- 2 X daily use

24 H & 48 H Post Intervention Measurements

Pain: Self-reported pain scores ($r = 0.91$) (Downie, et. al., 1978)
Anxiety: Beck Anxiety Inventory ($r = 0.75$) (Beck, et al., 1988)
## Demographics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Average</th>
<th>(Range: 20 to 88 years)</th>
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<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td>52 years</td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td>Female 53%</td>
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<td></td>
<td></td>
<td>Male 47%</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<td>White 53%</td>
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<td>Black 30%</td>
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<td>Hispanic 17%</td>
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<td><strong>Diagnosis</strong></td>
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<td>Medicine 69%</td>
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<td>Surgery 25%</td>
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<tr>
<td></td>
<td></td>
<td>Oncology 6%</td>
<td></td>
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</tbody>
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N = 36
# Results

<table>
<thead>
<tr>
<th>Time</th>
<th>Self Reported Pain Score</th>
<th>Beck Anxiety Inventory Score</th>
<th>MEDD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Intervention</td>
<td>6.72</td>
<td>25.81</td>
<td>308</td>
</tr>
<tr>
<td>24 Hrs.</td>
<td>6.61</td>
<td>18.47 (p = 0.0001)</td>
<td>259</td>
</tr>
<tr>
<td>48 Hrs.</td>
<td>6.36</td>
<td>12.86 (p &lt; 0.0001)</td>
<td>251</td>
</tr>
<tr>
<td>% Change from Pre to 48 Hrs.</td>
<td>6% Decrease</td>
<td>50% Decrease</td>
<td>19% Decrease</td>
</tr>
</tbody>
</table>
Conclusions

• Statistical significance with anxiety scores
• Statistical significance not seen with the other measures
• Clinical significance seen in pain scores & analgesia use
• Viable CAM approach
• Positive feedback from patients enrolled
• Easy to use
Guided Imagery
Application To Practice

- Holistic
- Balance
- Collaboration
- Empowerment
- Evidence-based
Questions?

Thank you!

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