NONPHARMACOLOGIC STRATEGIES FOR SYMPTOM MANAGEMENT AT THE END OF LIFE

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Objectives…

• Identify common symptoms and symptom clusters experienced at the end of life

• Describe evidence-based complementary nonpharmacologic strategies at the end of life

• Consider how you might incorporate nonpharmacologic strategies in your work with patients/residents and their families with advancing illness in home or LTC settings

What do dying persons want at the end of life?

• Maintain dignity (95-99%)
• Freedom from anxiety (90-91%)
• Have physical touch (86-97%)
• Feel prepared to die (79-87%)

Steinhauser et al., 2000
Comfort care at the end of life

- Physical comfort
- Mental and emotional needs
- Spiritual issues
- Practical tasks

Common symptoms in palliative care

- Anxiety
- Anorexia / Cachexia
- Constipation
- Cough
- Depression
- Diarrhea
- Dry Mouth
- Dyspnea
- Respiratory secretions
- Fatigue
- Sleep Disturbance
- Nausea & Vomiting
- Pain
- Pruritus (itching)

Common symptoms in nursing home residents at end of life

- Pain
- Agitation
- Shortness of breath
- Respiratory secretions
- Cough
- Constipation
- Nausea / Vomiting

References:

Hendriks, Smalbrugge, Horogh, & van der Steen, 2012; Hockley et al., 2006; Rodriguez et al., 2010; Bookbinder & McHugh, 2010; Kolb & Kowalkowski, 2013; van Gooten, 2004.
Co-occurring symptoms

- Persons experience multiple symptoms in advanced disease and at the end of life

- Examples
  - Fatigue + Pain + Sleep Disturbance / Drowsiness
  - Poor Appetite + Nausea + Bowel problems
  - Breathlessness + Anxiety + Fatigue
  - Shortness of breath + Cough + Nausea
  - Anxiety + Tension + Depression

- Selecting a single intervention that is effective for all co-occurring symptoms is less burdensome than prescribing several single-symptom interventions

Bedi et al., 2009; Chan, Chau, & Chei, 2009; Stiel et al., 2014

Self-reported symptom management strategies

- **Medications / Medical Procedures**
  - Heat
  - Cold
  - Exercise
  - Rest / Relaxation

- **Natural Products**
  - Body work / manipulation Techniques
  - Energy Therapies
  - Spiritual Practices
  - Social Support
  - Diet Changes
  - Distracting Activities

Hanson, Skovlund, Will & Kvaalbolchem, 2003

Nonpharmacologic interventions

- Used as adjunctive (complementary) therapy
- Symptoms are multidimensional
- Nonpharmacologic strategies operate differently than pharmacologic agents
  - Relieve distress and anxiety
  - Enhance perceptions of control / mastery
  - Alter negative expectations
  - Enhance sense of well-being
In the absence of cure, the most appropriate treatment will be one that addresses cognitive, affective, and behavioral factors associated with pain, and not solely physical ones.  

Turk, 2002

Nonpharmacologic interventions

- Support / reinforce usual coping methods
- Supplement usual coping with new techniques

Evidence base

- Many nonpharmacologic strategies have been studied
- Some strategies have substantial research support in general symptom management research
- Few have sufficient evidence in palliative care populations
Systematic review: complementary therapies at end of life

- Pain
  - Massage
  - Relaxation
  - Imagery, hypnosis
  - TENS*
  - Acupuncture*
- Dyspnea
  - Acupuncture & Acupressure
  - Relaxation
  - Counseling – breathing training & coping


Systematic review: complementary therapies at end of life

- Breathlessness
  - Neuro-electrical muscle stimulation
  - Chest wall vibration
  - Walking aids
  - Breathing training


Systematic review: complementary therapies in palliative care

- Massage
  - Pain
  - Distress
- Guided imagery / meditation
  - Pain
  - Negative mood, depression, anxiety
- Music
  - Pain
  - Anxiety

Lafferty et al., 2006. Evaluating CAM treatment at end of life: a review of clinical trials for massage and meditation. Complementary Therapies in Medicine

Educational interventions

- Health or disease-related information
  - Anticipated events, procedures, sensations
  - Causes and factors that contribute to symptoms / side effects
  - Rationale for symptom management strategies

- Delivered alone or with self-management skills training

- Useful across all symptoms

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Simple comfort measures

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Useful For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Positioning</td>
<td>Cough</td>
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<tr>
<td></td>
<td>Dyspnea</td>
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<tr>
<td></td>
<td>Pain</td>
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<tr>
<td>Air Flow</td>
<td>Dyspnea</td>
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<tr>
<td></td>
<td>Itching</td>
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</tbody>
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Simple comfort measures

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</tr>
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<tbody>
<tr>
<td>Breathing training (e.g., abdominal breathing, pursed lip breathing)</td>
<td>Dyspnea, Anxiety</td>
</tr>
<tr>
<td>Diet Alterations</td>
<td>Anorexia / Cachexia, Constipation, Diarrhea, Dry mouth, Insomnia, Nausea &amp; Vomiting</td>
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</tbody>
</table>
Alterations in activity

<table>
<thead>
<tr>
<th>Strategy</th>
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</thead>
<tbody>
<tr>
<td>Exercise</td>
<td>Constipation, Depression, Dyspnea</td>
</tr>
<tr>
<td>Pacing Activities</td>
<td>Dyspnea / breathlessness, Fatigue</td>
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<tr>
<td>Sleep Hygiene</td>
<td>Insomnia, Fatigue</td>
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</tbody>
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Sleep hygiene

- Get up at the same time each day
- Exercise regularly (> 3 hours before sleep)
- Avoid long naps (>30 min)
- Eliminate caffeine, nicotine
- Limit fluids in the evening
- Avoid alcohol in the evening
- Have a light snack before bed
- Relax before bed
- Keep bedroom dark, quiet, and cool
- Get out of bed if unable to sleep

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Cutaneous Stimulation: Heat

- Effective for pain
- Moist heat increases penetration
- Temperature: 40° to 45° C
- Duration: 5 – 30 minutes
- Contraindications
  - Bleeding
  - Burned or radiated skin
  - Decreased sensitivity or inability to report discomfort
Cutaneous Stimulation: Cold

- Effective for pain, dyspnea, itching
- Provide gradual onset of cold
- Temperature: 15°C
- Duration: Up to 20 minutes
- Contraindications
  - Poor circulation
  - Peripheral vascular disease
  - Raynaud’s phenomenon
  - Burned or radiated skin

Cutaneous Stimulation: Massage

- Effective for pain, anxiety, insomnia
- Traditional massage: gentle kneading strokes
  - Site of pain
  - Muscle relaxation sites - back, neck, scalp, hands, feet
- Duration: 5 minutes – 1 hour
- Contraindications
  - Thrombocytopenia
  - Fragile skin
  - Superficial thrombophlebitis or DVT
  - Acute inflammation or skin infection

Cutaneous Stimulation: TENS

- Effective for pain
- Skin stimulation through mild electrical current
- Various modes: conventional, brief-intense, strong low-rate (acupuncture-like)
- Electrodes placed directly over or near the site of pain or at an acupuncture point
- Contraindications
  - Pacemakers
  - Implanted electrical devices
Mind-body strategies: Distraction

<table>
<thead>
<tr>
<th>Effective for</th>
<th>Nausea &amp; Vomiting</th>
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<tbody>
<tr>
<td>Anxiety</td>
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<td>Insomnia</td>
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• Directing attention away from bothersome symptoms
• Requires:
  • Mental capacity to concentrate
  • Physical ability / energy to engage in distracting activities
• Useful for brief pain or symptom episodes
  • Awareness may return when distraction ends

Using distraction interventions

• Choose something the individual is interested in
• Consistent with energy level / ability to concentrate
• Activity that stimulates the major senses
  • Hearing
  • Sight
  • Touch / movement
• Potential to increase the distractive stimulus when the symptom increases in intensity

Mind-body strategies: Music

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<thead>
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<tr>
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<td>Pain</td>
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<td>Depression</td>
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• Distracts attention from pain or other symptoms, stimulates relaxation, or changes attitude / mood
• Use personal preference for music selection
• Encourage engagement
  • tapping out rhythm, singing, dancing
• Allow control over volume and length of music listening
Mind-body strategies: Guided imagery

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- Using one’s imagination to create pleasant images or sensory images that change how the symptom is perceived or experienced
  - Pleasant imagery (distracting / relaxing)
  - Symptom-focused (e.g., create and change the image of pain or other symptom)

Using imagery

- Audiotaped script or live guide
- Preceded by relaxation exercise
- Use multiple senses in developing images
- Length tailored to individual’s preferences and energy level
- Caution in persons with psychiatric illness

Samples:
- [http://www.mckinley.illinois.edu/units/health_ed/stress_audio/Trip%20to%20the%20Beach.mp3](http://www.mckinley.illinois.edu/units/health_ed/stress_audio/Trip%20to%20the%20Beach.mp3)
- [http://www.med.umich.edu/cancer/podcasts/g_pain.mp3](http://www.med.umich.edu/cancer/podcasts/g_pain.mp3)

Mind-body strategies: Relaxation

- Effective for
  - Anxiety
  - Dyspnea
  - Fatigue
  - Insomnia
  - Nausea & vomiting
  - Pain

- Release of physical tension
- Reduction in emotional distress
Relaxation techniques

- Jaw Relaxation
- Rhythmic breathing
- Heartbeat breathing
- Progressive muscle relaxation
- Stretch-based relaxation
- Meditation
- Prayer

Sample: Brief muscle relaxation
http://www.uhs.wisc.edu/health-
https://www.mp3/uhs_brief_muscle_relaxation_nature.mp3

Provider-delivered CAM practices

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<tr>
<td>Energy Therapies (Reiki,</td>
<td>Anxiety</td>
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<td>Therapeutic or Healing Touch)</td>
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<tr>
<td>Reflexology</td>
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<td>Yoga, Tai Chi, Qi Gong</td>
<td>Anxiety, Depression, Fatigue</td>
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Practice issues

- Individual differences in effectiveness
- Consider physical and cognitive capacity for various strategies
- Provide rationale for recommended strategies
- Involve family / caregivers
Practice issues

- Needs of older adults
  - Pace training and provide written instructions
  - Consider age-associated skin changes
  - Allow extra time for cognitive interventions
  - Consider sensory limitations
    - Amplification (music, imagery tapes)
    - Written materials in large print

Practice Issues

- Advancing disease
  - Change in mobility / range of motion
  - Diminished memory
  - Reduced ability to report discomfort
  - Change in energy level / ability to actively participate

- Setting – home and LTC
  - Access to experienced providers
  - Staff time
  - Environmental barriers
  - Caregiver knowledge / confidence

Referrals

Multidisciplinary Team
- Cutaneous Stimulation – Physical therapy
- Mind-Body Strategies - Health psychology, Social work, Chaplain
- Breathing re-training - Respiratory therapy
- Dietary alterations – Dietician
- CAM - Integrative medicine service or volunteers
  (e.g., acupuncture, massage therapy, therapeutic touch)