Use of Mind-Body Interventions to Address Patient and Caregiver Distress in Pediatric oncology Settings

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Mind-Body Interventions

- Designated as complementary medicine(CAM)by the National Center for Complementary and Alternative Medicine(NCCAM)
- Also referred to as Mind- Body Practices by NCCAM
- "A variety of techniques designed to enhance the mind's capacity to affect bodily function and symptoms"(NCCAM)

Mind Body Practices in Pediatric Oncology

- Used in pediatric oncology to ameliorate procedure-related distress, pain, and anxiety associated with cancer diagnosis(Landier & Tse, 2010; Thrane, 2013.)
- Utilized with parents/caregivers to address traumatic stress symptoms(Kanitz et all, 2012), reduce anxiety and improve mood(Tsitsi et al., 2016.)
- Not all mind-body practices are effective for everyone and may temporarily increase distress for some - thorough assessment is needed to determine the most effective intervention for each patient(Landier & Tse, 2010; Reynolds et al. 2017.)

Evidenced Based Mind -Body Practices Used with Cancer Patients and Caregivers

- Hypnosis
- Relaxation/Distraction, Relaxation Breathing
- Progressive Muscle Relaxation
- Guided Imagery and Imagery
- Meditation and Mindfulness Based Stress Reduction
- Physical modalities- Yoga

Theoretical Basis Medical Traumatic Stress Model Kazak, Kassam-Adams et al., 2006

- The life threatening nature of cancer diagnosis and the effects of the invasive medical procedures can precipitate traumatic stress responses in patients and caregivers.
- The treatment course from diagnosis through survivorship has three phases and there is a risk for potentially traumatic events throughout.
- Recommend interventions that prevent as well as address distress related to procedures, pain, symptoms, anxiety/depression and family stress.

Theoretical Basis- Self Regulation Theory-Monti, et al, 2008

- "Explains how people cope with and adapt to stressful situations, such as health problems or threats(eg, a cancer diagnosis)
- Based on the integration of two aspects of information processing - the combination of the objective data and the subjective appraisal of the data to form a personal schema from which future health related information is perceived.
- This schema helps determine coping behaviors and forms a feedback loop where one affects the other.
- Mind-Body interventions can work to modify appraisals of health related data, alter physiological responses, or alter perception of data.

Uses of Mind-Body

- Facilitate coping with invasive medical procedures-patient and caregiver(vicarious trauma)
- Decrease symptoms of fatigue, nausea, perception of pain
- Decrease anticipatory distress/anxiety related to procedures
- Increase emotional regulation /decrease dysregulation
- Decrease perception of caregiver burden and stress

Parents and Caregivers

- Interventions with parents/caregivers of pediatric cancer patients have focused mainly on decreasing parent distress during invasive procedures by decreasing child's distress(Manne et al., 1990), addressing PTSS through psycho-education(Kazak, et al., 2007) and teaching problem-solving to decrease diagnosis related distress(Sahler et al., 2005.)

Parents and Caregivers

- Mind-Body Practices may be useful in decreasing parent/caregiver distress as an adjunct to psycho-education and problem-solving or as an alternative when the these latter interventions are not applicable to the situation or parent personality.
- Barriers to parents utilizing mind-body interventions: lack of time, guilt at not focusing on child, fear of losing emotional control.

Assessment Guidelines

- Age, Cognitive/Developmental Abilities
- Attention Span
- Personality
- Physical Status/Medical Status
- Level of Pain/Distress(reported and observed)
- Current Coping Strategies
- Cultural, Religious, Spiritual Beliefs
- Psychological Diagnoses,Trauma History, History of Disassociation

Assessment Guidelines

- Distress triggers- situational/perception/ interpersonal
- Environment in which mind-body intervention utilized
- Level of support, cues, and materials needed to implement

Considerations for Special Needs

- Patients diagnosed with differing developmental abilities such as autism, Down's Syndrome can utilize mind-body practices with appropriate accommodations.
- Base selection and use on functional abilities rather than chronological age
- Consult with parents, teachers and/or behavioral specialist regarding self-calming or self-soothing strategies already in use or may be helpful.
- Factor in possible perceptual sensitivities to visual stimuli, sound, or tactile stimuli
- Model and mirror chosen mind-body practices and pair with positive reinforcement to facilitate success.

Focus on the Breath
Why It Works

- Taking deep breaths such as abdominal breathing counters the short shallow breaths of the stress response.
- Hypothalamic-pituitary-adrenal axis: deep breathing activates the hypothalamus initiating a chain reaction within the axis releasing neurohormones that decrease stress hormones and trigger a feeling of calm.
- Can lower blood pressure
- Concentrating on breath and body distracts from distressing stimuli.

Distraction

- The presentation of a pleasant or favored stimulus or combination of stimuli to divert attention away from distressing situation or emotion.
- Can be visual, auditory, motor, or combination of thereof.
- Can be effective when "minimal preparation time is available." (Landier &Tse, 2010.)
- Can be used with relaxation breathing, but also can indirectly help regulate breathing and facilitate calming by redirecting focus away from perceived threat.
- Used most frequently in pediatric oncology to help children cope with invasive procedures and anticipatory anxiety(Thrane, 2013; Landier & Tse, 2010.)

Benefits
Relaxation Breathing and Distraction

- Variations on relaxation breathing can be used with all ages. Toddlers may need modeling and tools like blowing bubbles(Manne et al., 1990.)
- Forms of relaxation breathing incorporated into CBT, DBT, and MBSR.
- Distraction can be utilized with children as young as 2 years of age (Thrane, 2013; Landier &Tse, 2010)
- Portable and generalizable.

Assessment Considerations and Implementation

- Before initiating any mind-body intervention, identify and acknowledge the situation and related emotions.
- Patients experiencing abdominal pain or discomfort breathing- use distraction or mirror even paced breathing if physically able(not deep.)
- Relaxation breathing may be most useful for patients and caregivers in high distress to stabilize before adding another intervention
- Model and guide breathing techniques to foster success.
- Engage patient and caregiver in choosing materials for distraction when feasible. Engage parents as coaches(Manne, et al. 1990.)

Practice Relaxation Breathing

- Deep abdominal breathing
- Extended exhale breathing
- 3 minute breathing space(Williams et al, 2007)

Progressive Muscle Relaxation(PMR)

- Systematic intentional tensing and release of muscle groups to release tension and promote feeling of calm.
- Increases parasympathetic nervous system activity while decreasing sympathetic nervous system activity thereby countering stress response(Tsitsi et al, 2016)
- Often used as first step with guided imagery.

Benefits of PMR

- Tsitsi et al, 2016 utilized a combination of PMR and guided imagery with parents of hospitalized pediatric cancer patients to reduce anxiety and improve mood.
- Patients can use to relax before, during, and after procedures and treatments (Klein,2001) with practice.
- Can be helpful for generalized feelings of anxiety, distress.
- Is self-directed fostering a feeling of increased control.
- Portable and generalizable.

Assessment Considerations and Implementation

- Not indicated for patients experiencing pain/physical discomfort who have not practiced PMR previously. Consider using distraction and deep breathing as alternative for these patients.
- Better utilized by preteens through adulthood who can sustain attention and tolerate temporary discomfort of muscle tensing.
- If patient elects use during medical procedures to ameliorate distress/ discomfort, first practice when patient is calm and pain free until patient achieves relaxed state and can use independently.
- Pair practice and use with calming music or sounds. Paired conditioned stimuli(music/sound) can trigger relaxation response
- With young children, consider pairing another form of physical discharge in lieu of PMR.

Guided Imagery and Visualization

- Using the “imagination to create a sensory experience to achieve a clinical goal” (Carlson & Bultz, 2008.)
- Utilize to redirect attention from distressing procedure(Landier &Tse, 2010).
- Help control pain, decrease nausea and vomiting associated with chemotherapy and to attenuate fight or flight stress response(Carlson &Bultz, 2008.)
- Used in CBT, including systematic desensitization.

Benefits of Guided Imagery and Visualization

- Can be utilized with patients around age 8 years and up and parents.
- Can be self-directed and may increase perception of control.
- Useful for individuals or with groups.
- Compliments children's use of fantasy/imagination.
- Easy availability of guided imagery scripts through books and online.
- May be used as distraction to cope with procedures or to focus on body to help ameliorate discomfort.

Assessment Considerations and Implementation

- If using visualization or guided imagery with children under age of 8(6-7 years) factor in presence of magical thinking. Avoid using images of killing cancer cells or curing cancer that could inadvertently reinforce child's magical thinking about cause of cancer or risk self-blame if exacerbation of illness occurs. Focus on distraction images(fun or comfort) or affirmations such as feeling strong.

Implementation Considerations

- Visualization for children under age 8- ask to generate, draw happy/ comfortable/safe scene.
- When person in high distress or unable to sustain attention for guided imagery ask to generate a positive memory. Speer & Delgado, 2017 found that generating positive memories reduced stress response.
- If patient in pain and not practiced in guided imagery use images that distract from body.
- When using body focused guided imagery to cope with pain or discomfort, practice with patient when pain free. Have patient develop ability to achieve relaxation consistently before focusing attention on body when in discomfort.

Implementation Considerations

- Facilitate patient/parent developing personally relevant images and scripts for guided imagery(use a favorite happy memory or activity).
- Incorporate all the senses in developing image, pair with music.
- Foster gathering positive images for visualization and imagery(scenes of patient's/parent's own resiliency) for affirmations.
- Introduce guided imagery and guide practice to foster success. Just showing an online app or book may not be effective.

Practice

- Distraction Guided Imagery- 5 minutes

Downside of Mindfulness in the Mainstream

- "Mindfulness Would Be Good For You If It Weren't So Selfish."
  Thomas Joiner Washington Post
  August 25, 2017

Mindfulness as a Therapeutic Concept

- "Mindfulness is awareness that arises through paying attention on purpose, in the present moment, non-judgmentally to the unfolding of experience moment by moment." Jon Kabat Zinn

Mindfulness as a Therapeutic Concept

- The utilization of mindfulness therapeutically is to help derail the non-productive rumination that escalates distress, anxiety, and/or depression but does not lead to effective coping (Jain et al.,2007; Williams et al.,2007.)
- Mindfulness is a significant component of CBT and DBT. It is an integral component of Mindfulness Based Stress Reduction(MBSR.)
- Mindfulness meditation may have a beneficial effect on emotional regulation, lessen intensity of emotional reactions, and foster perception of greater control(Tang et al., 2015; Williams et al., 2007.)

Benefits of Mindfulness

- Can be used to redirect patient or parent from escalating distressing projections about outcomes of procedures, prognosis, the unknown future(what ifs), self-blame(would have, could, have, should have) associated with cancer diagnosis, treatment, and survivorship.
- May be useful combined with distraction to decrease anticipatory anxiety related to procedures, scheduled admissions, transition anxiety related to end of treatment.

Benefits of Mindfulness

- Can be used with participants from age 6(Burke, 2009) through adulthood. Younger children may need toys or visual materials as cues.
- Brief intervention with simple concepts.
- Once mastered, skill can be generalized to other distressing life situations/events.

Mindfulness Based Stress Reduction- Jon Kabat Zinn

- Evidenced based, manualized, model of stress reduction based on various forms of mindfulness meditation.
- Kabat-Zinn (1996) while allowing for flexibility also stresses fidelity to the model.
- Teachers of MBSR must complete an approved certification course and must meet prerequisite of having a history of own consistent meditation practice.

MSBR: Kabat-Zinn, 1996

- Eight week course comprised of formal mindfulness meditation types- Body Scan, Gentle Hatha Yoga, Sitting Meditation, Walking Meditation and Informal Mindfulness Meditation Practices.
- Emphasis on commitment, self-discipline, and intentionality in undertaking the MSBR training.
- Incorporates seven attitudinal foundations of mindfulness practice: Non-judging, patience, beginner's mind, trust, non-striving, acceptance, letting go.

Benefits of MSBR

- MSBR with adult cancer patients found to have positive effect in improving mood, decreasing stress symptoms and symptoms associated with treatment/procedures that are exacerbated by tension(Carlson and Bultz, 2008)
- Children and Adolescents- Burke, 2009 noted that while most studies have been with adults, enough evidence exists to justify use with children and adolescents. Some schools are teaching in the classroom.
- MSBR utilized with caregivers of cancer patients found decreased perception of caregiver burden(Van den Hurk, et al., 2015.)

Mindfulness Assessment Considerations and Implementation

- MSBR with younger children- "requires attention to .. attention span, cognitive capacities, language, physicality, relevant content and that children are imbedded in family and school systems" (Burke, 2009)
- Given time commitment, MBSR may be more manageable when patient and parent are in less intensive phases of cancer treatment.
- May need to start with incorporation of mindfulness within other modalities such as breath work, imagery, and mindfulness based meditation before moving to formal MSBR.

Practice

- Mindfulnesss Based Meditation- 5 minutes.

Resources

- Guided Imagery Books- Imagine What's Possible: Using The Power Of Your Mind to Help You Take Control Of Your Life During Cancer. Gary Skole and Jared Skole; Healing Images for Children: Teaching Relaxation and Guided Imagery to Children Facing Cancer and Other Serious Illnesses. Nancy Klein, MA; A Volcano In My Tummy: Helping Children to Handle Anger. Elaine Whitehouse and Warwick Pudney.
- Mindfulness Meditation You Tube- Keyword- Jon Kabat-Zinn Guided Meditation.
- Online- Pediatric Medical Traumatic Stress Toolkit for Healthcare Providers and Medical Events and Traumatic Stress in Children and Families slide presentation(Kazak, et al) at National Child Traumatic Stress Network: nctsnet.org. At website choose "Trauma types" then "Medical Trauma" to access toolkit.

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