

# Complementary and Alternative Medicine

## A Population Health Clerkship Investigation

Nisarg Chhaya; Alan Kwan; Liz Li; Jesse Moskowitz; Alex Newbury; Eva Rouanet; Leah Shesler; Lauren Testa; Jess Tolson



### Background

**Population of focus:** Pediatric patients (inpatient and outpatient)

**Epidemiology:**

Approximately 20% to 40% of healthy children seen in outpatient pediatric clinics and more than 50% of children with chronic, recurrent, and incurable conditions use CAM, almost always in conjunction with mainstream care (Kemper).

**Social determinants & Health Care Access Factors:**

- Many CAM modalities are not covered by insurance companies. Success of insurance coverage for music therapy has been reported on a case-by-case basis.
- Language, cost, insurance coverage, transportation, knowledge of existing services.

**Advocacy:** The current focus of advocacy groups is to increase the availability of these services and ultimately improve the scope of care that is offered to patients.

Key advocacy groups:

- National Center for Complementary and Alternative Medicine (NCCAM)
- American Holistic Medical Association

**Service-Learning Project Goals:**

1. Gain a better understanding of and experience different practices involved in complementary and alternative medicine.
2. Provide an online resource about these modalities and how to access them.

**Progress:** We are compiling information and resources on various complementary and alternative medicine modalities which will be incorporated into the UMMS library website.

**Special thanks to our faculty and community advisors & collaborators:** UMMASS: Barbara Grimes-Smith, MPH | Melissa Rathmell, MD | Hari Kirin Kaur Khalsa, MD | Heather-Lyn Haley, PhD | Greg Hurd, Bancroft School of Massage Therapy | Gioia Persuitte, MPA, Preventive & Behavioral Medicine | Zayda Vallejo, HeartWell Institute | Lynn Gerrits, MA, Simonds-Hurd Complementary Care Center



### Modalities Used in Children

**Animal-Assisted Therapy:**

- The American Veterinary Medical Association (AVMA) (2012) estimates that 69.9 million U.S. households own a pet dog, and 74.4 million own a pet cat.
- Animal-facilitated therapy (AFT) affects the way a patient experiences symptoms.
- Therapy animals are usually not owned by the clients or responsible for their well-being, and are brought to the pet therapy session by the owner, who is called the "handler" in these sessions.
- Benefits include an increase in social interactions and attention, improvement in mood, and extended life expectancy (Beetz, Uvnas-Moberg, Julius, & Kotrschal, 2012; O'Haire, 2010)

**Table 2**  
Pre-Post Intervention Pain Scores: Mean, Standard Deviation, and Significance of Difference

	Preintervention	Postintervention	Significance of Difference <sup>a</sup>
Physical pain	3.79 (SD = 2.51)	1.64 (SD = 1.74)	p = .001
Emotional pain	3.89 (SD = 2.41)	1.24 (SD = 1.68)	p = .000

a. Significance was determined using paired t tests.

A study in canine visitation therapy found significant reduction in perceived pain in pediatric patients. (Sobo, et al. 2006)

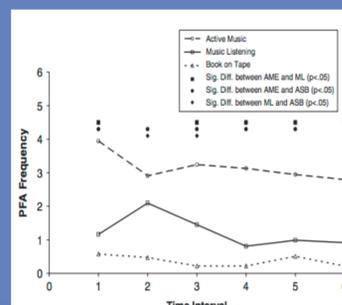
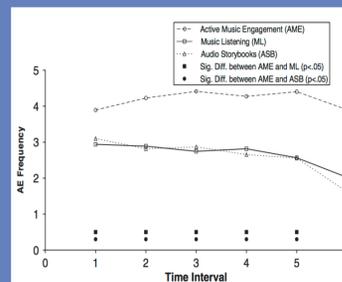


**Music Therapy:**

Music therapy is the clinical and evidence-based use of music to accomplish individualized, functional, non-musical goals within a therapeutic relationship by a board certified music therapist (MT-BC) who has completed an approved music therapy program. Music therapy is clinically used as an intervention to minimize trauma and normalize hospitalization.

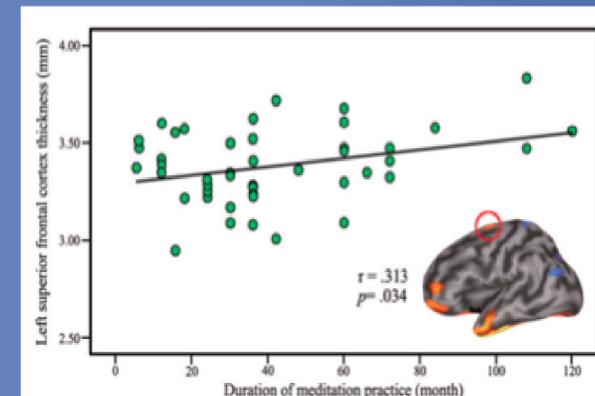
NeuroRhythm Music Therapy Services, LLC.

- Active music engagement (AME) participants had a significantly higher frequency of coping-related behaviors (as defined by Active Engagement, or Positive Facial Affect) compared with music listening or audio storybooks (Robb et al., 2008).
- Active engagement is essential if children are to learn positive coping strategies that will help buffer the impact of stress related to hospitalization (Skinner et al., 1994).



**Mindfulness meditation:** A practice of being fully present in each moment with non-judgmental acceptance.

- Mindfulness has been shown to be beneficial in school settings in terms of improved cognitive and emotional control, decreased depression and aggression, and more.
- Mindfulness among adolescents has been shown to reduce the experience and intensity of chronic pain.
- Mindfulness has been used to decrease stress, minimize trauma, and help manage mental health exacerbations in youth in foster care.



Meditation has been shown to change brain structures associated with attentional and emotional regulation (Kang, et al. (2013))

### Conclusions

**Lessons Learned:**

- CAM can be a vital medium through which patients can regain a sense of self-control and happiness while going through a difficult time.
- The quality of the CAM instructor can make a huge impact on a patient's experience
- Physicians need to be informed about the various CAM modalities so that they can best serve their patients' physical, mental and emotional needs.
- Although not fully understood, CAM modalities can be useful resources for patients.

**Recommendations for Next Steps:**

- Our online resource component is continually evolving; Additional resources and modalities can be added/updated on an ongoing basis.
- More integrative medicine and complementary care sites in the Worcester area to be explored

**References:**

1. Beetz, A., Uvnäs-Moberg, K., Julius, H., & Kotrschal, K. (2012). Psychosocial and Psychophysiological Effects of Human-Animal Interactions: The Possible Role of Oxytocin. *Frontiers in Psychology*, 3, 234.
2. Elisa, Sobo J, PhD. "Canine Visitation (Pet) Therapy." *Canine Visitation (Pet) Therapy* 24.1 (2006): 51-57. Web. 26 Oct. 2015
3. Kang DH, Jo HJ, Jung WH, et al. The effect of meditation on brain structure: cortical thickness mapping and diffusion tensor imaging. *Social Cognitive and Affective Neuroscience*. 2012.
4. Kemper, K.J., S. Vohra, R. Walls. "The Use of Complementary and Alternative Medicine in Pediatrics." *Pediatrics* 122.9 (2008): 1374-386.
5. Lee, SH; Couderc, JP; Swanson, D; Gallegos, A; Hilliard, G; Blumkin, A; Cunningham, K; Heinert, S. "A pilot randomized trial teaching mindfulness-based stress reduction to traumatized youth in foster care." *Complementary Therapies in Clinical Practice*. 21 (2015). 201-209.
6. Petter, Mark et al. The Role of Trait Mindfulness in the Pain Experience of Adolescents. *The Journal of Pain*, Volume 14, Issue 12, 1709 - 1718
7. Robb, S. L., Clair, A. A., Watanabe, M., Monahan, P. O., Azzouz, F., Stouffer, J. W., Ebberts, A., Darsie, E., Whitmer, C., Walker, J., Nelson, K., Hanson-Abromeit, D., Lane, D. and Hannan, A. (2008). Randomized controlled trial of the active music engagement (AME) intervention on children with cancer. *Psycho-Oncology*. 17: 699-708. doi: 10.1002/pon.1301
8. Schonert-Reichl, Kimberly A., Eva Oberle, Molly Stewart Lawlor, David Abbott, Kimberly Thomson, Tim F. Oberlander, and Adele Diamond. "Enhancing Cognitive and Social-emotional Development through a Simple-to-administer Mindfulness-based School Program for Elementary School Children: A Randomized Controlled Trial." *Developmental Psychology* 51.1 (2015): 52-66.
9. Skinner EA, Wellborn JG. Coping during childhood and adolescence: a motivational perspective. In *Life-Span Development and Behavior*, vol. 12, Featherman DL, Lerner RM, Perlmutter M (eds). Lawrence Erlbaum: Hillsdale, NJ, 1994; 91-133.