CAM therapy in TBI

Clausyl (CJ ) Plummer II, M.D.
UW Brain injury Medicine Fellow
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What is CAM Therapy?
What is CAM therapy?

- "Complementary and Alternative Medicine" Defined as the use and practice of therapeutic techniques that are not traditionally found in western healthcare systems.
- Complementary = used with conventional medicine.
- Alternative = used instead of conventional medicine.
TBI and CAM

- Unique opportunity given its complexity
- Limited studies specific to TBI population
- Many treatment options overlap
- Can help avoid/reduce polypharmacy effects
Common issues with TBI
Common issues in TBI

- Mood changes
- Pain/Headaches
- Sleep disturbances
- Memory/attention issues
- Fatigue
CAM Therapy Overview
Nutraceuticals

- Is the hybrid of ‘nutrition’ and ‘pharmaceutical’.
- Are food or part of food playing a significant role in modifying and maintaining normal physiological function that maintains healthy human beings.
Omega 3 fatty acid

- Thought have association with promoting neuro-recovery, treating depression, aggression.
- The brain is made up of lipids (60%)
  - DHA (Docosahexaenoic acid) and EPA (Eicosapentaenoic acid) very important in terms of their anti-inflammatory properties.
  - Some suggest these have a role in axonal injury reduction (oxidative stress)
- Has been associated with cardiovascular risk reduction (inconclusive), depression, and TBI recovery (VERY mixed results with amongst several studies).
- Can be useful for anti-inflammatory properties for pain, depression/ADHD
Butterbur

- Based on two high-quality studies, the American Academy of Neurology and the American Headache Society PREVIOUSLY endorsed the use of a butterbur extract to reduce the frequency of migraines.

- There have since been concerns associated with liver toxicity (No recommendation for its use as of Jan 2017).

- Concerns with Pyrrolizidine alkaloids (PA)
Feverfew

- From the dried leaf of weed plant tanacetum parthenium. Available as tea.
- Some research suggests that feverfew may help to prevent migraine headaches, but results have been mixed.
  - Evidence-based guidelines from the American Academy of Neurology and the American Headache Society suggest that a feverfew extract may be effective and should be considered for migraine prevention.
- Can take 1-3 cups per day
- Side effects: GI irritability, arthralgias, mouth ulcers
Vitamin B complex/SAMe

- Important in depression, thought to assist with serotonin restoration.
- Studies have shown that SAM-E supplements have comparable anti-depressive efficacy as imipramine in patients with major depression.
- Doses:
  - SAMe 200 mg a day
  - Vitamin B2 400 mg daily
  - Vitamin B12 1000 mcg daily
- Considerations:
  - Bipolar, mania can worsen with SAMe
  - Can decrease effectiveness of Levodopa
Gingko biloba

- Used to slow memory decline in patients with dementia (Alzheimer’s and vascular)
  - Some studies also show some improvement in memory and social interactions.
  - Still controversial Very little research in the TBI population
- Doses used: 120-240mg daily
- Avoid if on blood thinners or have history of blood disorders.
  - Inhibits platelet aggregation
St. John’s Wort

- Thought to assist with depression, anxiety, insomnia
- Typical doses: 500 to 1,050 mg daily
- INTERACTS WITH SEVERAL MEDICATIONS. MUST SEEK MEDICAL ADVICE.
  - stimulates a drug-metabolizing enzyme (cytochrome P450 3A4) that metabolizes at least 50% of the drugs on the market.
  - Can reduce effectiveness of blood thinners/statins/antidepressants
- Can cause skin/light sensitivity
Tumeric

- The curcuminoids found in tumeric are thought to help reduce inflammation (as well as ibuprofen, NSAIDS).
  - Lowers histamine levels
  - Curcumin can be taken in the amount of 250 to 500 mg three times per day
- Side effects: GI irritation at high doses
Magnesium

- Thought to assist with migraine headache prevention
  - Patients with migraines found to be deficient
- The recommended dose is 400–600 mg/day of chelated magnesium (taurate, glycinate, oxide, etc) for at least 3 to 4 months.
- Side effect: diarrhea (GI discomfort)
Boswellia

- Frankincense Tree sap from India
- Has anti-inflammatory properties
  - First line treatment in Headache clinic
- As opposed to NSAIDs, long-term use of boswellia does not appear to cause irritation or ulceration of the stomach
- 150-800 mg 2-3 times per day (depending on extract amount)
- Side effects: Rare: Diarrhea, skin rash
Additional approaches to CAM therapy.
Acupuncture

- Used in classical Chinese medicine for over 2000 years
- Utilizes fine needles at specific acu-points in the body
- Meridian pathways
  - Release of Qi (pronounced “Chee”)
  - Removes blockages in the flow of energy
- Has become one of the more accepted methods in western medicine.
- Thought to change the brain’s perception of pain
The Body Meridians

Two Centerline Meridians:
- Conception Vessel
- Governing Vessel

Twelve Principal Meridians:
- Stomach Meridian
- Spleen Meridian
- Small Intestine Meridian
- Heart Meridian
- Bladder Meridian
- Kidney Meridian
- Pericardium Meridian
- Triple Warmer Meridian
- Gall Bladder Meridian
- Liver Meridian
- Lung Meridian
- Large Intestine Meridian
Considerations

- Can be used to assist with:
  - Depression
  - Insomnia
  - Chronic pain
  - Headaches

- Risk:
  - Pain, discomfort, vasovagal effect, pneumothorax, infection
  - Use caution if on blood thinners
  - Monitor for effects, particularly during trials
Gua Sha

- “Coining, spooning or scraping”
- Gua sha is defined as instrument-assisted unidirectional press-stroking of a lubricated area of the body surface
- Used to create transitory therapeutic petechiae called ‘sha’ representing extravasation of blood at the subcutaneous level.
- Works to reverse blood stagnation
  - Decrease pain
  - Decrease stiffness
  - Boosts immune system
Considerations

- Some use a version of this technique known as instrument assisted soft tissue mobilization (IASTM)

- Avoid if:
  - On blood thinners
  - Receiving active treatment for DVT
  - Have medical conditions affecting skin/veins
  - Active skin infection
  - Active wounds
  - Tumors

- Can cause bruising or skin tearing (not common)
Massage Therapy

- Is a hands-on method of manipulating the soft tissues of the body using the hands, fingertips, and fists.
- Can be light or deep, focusing on the underlying layers of muscle tissue.
- Useful in:
  - pain
  - Fatigue
  - anxiety
Considerations

- Can ask for a referral
  - Increases likelihood of coverage by insurance
- Can be very useful in the treatment of musculoskeletal pain
- Some postulate that there are increases in dopamine and serotonin after massage therapy.
Tai Chi

- is an exercise that combines slow, graceful movements with meditation and breathing techniques.
- Is sometimes called "moving meditation.
- Helps prevent the flow of qi from being blocked.
- Can help with depression, anxiety, pain
Considerations

- Start slow and work your way up
- Can use modified Tai Chi if you are unable to stand
  - Modified from the chair.
Light Therapy

- 2,500-10,000 LUX lamps
- Uses bright, non-full spectrum light (instead of UV light or narrow band wavelengths)
- Thought to assist with:
  - Restoration of brain neuro-chemicals (serotonin levels)
  - Resetting of circadian rhythm cycle
- Helps with depression, headaches, insomnia
Considerations

- No need to “look into the light”
  - Just keep it on in the room!
- Monitor for eye strain, headaches, euphoria
  - Consider reducing treatment time, moving farther from your light box, taking breaks during long sessions or changing the time of day you use light therapy.
- Use caution with medications that cause light sensitivity (St John Wort), or if you have skin conditions that are sensitive to light like lupus.
- Use caution with bipolar disorder
  - Can induce mania
Spiritual healing

- Important in TBI given the void created with new functional deficits.
  - Prayer rooted in faith, hope, higher purpose
  - Can assist with creating a support system
- “While interacting with doctors, patients do not cease to be human beings with deep and wide-ranging needs.”
**FICA Spiritual Assessment tool**

- **F - Faith and Belief**
  - Do I have a spiritual belief that helps me cope with stress? With illness? What gives my life meaning?

- **I - Importance**
  - Is this belief important to me? Does it influence how I think about my health and illness? Does it influence my healthcare decisions?

- **C - Community**
  - Do I belong to a spiritual community (church, temple, mosque or other group)? Am I happy there? Do I need to do more with the community? Do I need to search for another community? If I don't have a community, would it help me if I found one?

- **A - Address in Care**
  - What should be my action plan? What changes do I need to make? Are there spiritual practices I want to develop? Would it help for me to see a chaplain, spiritual director, or pastoral counselor?
Aromatherapy

- Therapeutic use of essential oils extracted from organic material
- Used as relaxation therapy
- Thought to stimulate various areas of the brain
  - Send impulses to areas of the brain responsible for memory and emotion
  - Can have effects on autonomic system
  - Can increase analgesic substances in the body
- Can assist with anxiety, depression, and insomnia
Considerations

- Look for PURE essential oil label
  - Avoid “mixed” or “blend”
  - Look for “organic” label (not made with chemicals)
  - NO eating/drinking essential oils
- Look for a certified Aromatherapist
- Do a trial on your skin to assess for irritation
- Use caution if you have
  - Asthma
  - Respiratory allergies
  - Chronic lung disease
  - Skin allergies
Meditation

- Two main types
  - Concentrative: Focus on single sound, word, mantra
  - Mindful: Focus on all the thoughts running through the mind (feelings, sounds, images).

- Usually involved slow regular breathing and quite sitting.

- Anxiety, stress, high blood pressure, depression, and pain.
Considerations

- No significant harm when associated with conventional therapies/treatment.
- Should not replace conventional treatment in acute medical circumstances.
Guided Imagery

- Thoughts or suggestions direct a patient’s imagination to a more relaxed and focused state.
- Body responds as if what is being imagined is actually happening
- This relaxed state can help with assist with:
  - Learning
  - Performing
  - Lowering blood pressure
  - Reducing stress
- No specific risks associated its use
  - Don’t try while driving/cooking
Music therapy

- Use of live or recorded music to help provide distraction from symptoms and side effects and to promote relaxation
- Can be passive listening or active music making
- Can assist with:
  - increase feelings of well-being
  - reduce anxiety
  - reduce physical symptoms such as pain and nausea
Individual Directory Search Results

H. Jacob Beck
Music Therapist
UpBeat Music Therapy Services, LLC
1215 Division St.
Carman, WA 98907
United States
Phone: (715) 294-3828
E-mail: beckmuzictherapy@gmail.com
Web Site: http://www.musictherapist.com
Member Type: Professional

Carlene Brown
Seattle Pacific University
3307 Third Ave. W.
Seattle, WA 98119
United States
Phone: (206) 617-8223
E-mail: cbrown2@spu.edu
Member Type: Professional

Patricia Catalano
Music Therapy Program Manager
Music Works Northwest
3715 204th Ct NE
Sammamish, WA 98074
United States

Considerations

- No specifics risks
- Can be combined with movement therapy
Biofeedback

- Is when an individual utilizes physical/mental exercises to consciously control a bodily function normally autonomically regulated.
- Measured and displayed on monitors DURING treatment (which demonstrates the desired self control).
- Utilizes EMG or limb temperature
- Requires instructor led sessions to learn competence
- Typically done in group sessions
- No major risks
Aqua-therapy

- Activities performed in water to assist with rehabilitation.
- Used to assist with muscle relaxation, improving joint motion and reducing pain.
Considerations

- Excellent form of aerobic exercise
  - Less joint pain
- Check with local “YMCA” or gyms for programs
- Avoid pools if you have issues with seizures, active infections, Tracheotomy, incontinence.
- Balneotherapy (aqua-therapy without exercise)
  - Used for arthritis
Neuromodulation

- is technology that acts directly upon nerves. It is the alteration—or modulation—of nerve activity by delivering electrical or pharmaceutical agents directly to a target area.

- Vast amount of devices available
  - But use typically limited by cost
Cephaly

- an External Trigeminal Nerve Stimulation device for migraines.
- A self-adhesive electrode is placed on the forehead and the Cefaly device is magnetically connected to this electrode.
  - Precise micro-impulses are sent through the electrode to the upper branch of the trigeminal nerve to either relieve the headache pain during a migraine attack or to prevent future migraine attacks.
- Acute and preventative settings available
- Can undergo trial through UWMC headache clinic
Vagal nerve stimulation

- GammaCore was recently FDA approved for migraine headaches, can also be used for cluster headaches.
- Involved direct stimulation of the vagal nerve through the skin (non-invasive)
- Not covered by insurance yet, can be costly
  - Also requires assistance from trained provider
- Can undergo trial through UWMC headache clinic
Hyperbaric Oxygen

- Delivers 100% oxygen under pressure
  - Increases amount absorbed in the blood
  - Increases amount that reaches tissue
- Atmospheric pressures at 1-3 in hyperbaric chamber
  - Sessions last for 30-90 minutes
  - Recommendations for an average of 100 sessions
    - Cost per session: $200-$400
    - Not approved by medicare/private insurance companies
The Undersea and Hyperbaric Medical Society released a position paper on the use of HBOT for chronic brain injury, traumatic and non-traumatic.

- This paper concluded that “the weight of the currently available scientific literature is not felt to support an endorsement of HBOT for chronic brain injury”.

- More studies underway
Considerations

- There is no literature that supports its use in TBI
  - Prior studies looked at acute setting use

- Risks:
  - Seizures (1-2% in non-neurological population)
  - Lung injury (Aspiration, infiltrates, direct baro-trauma in 20-30%)
  - Ear or Oto-trauma (pain, rupture of tympanic membrane in 10-20%)

- HBO centers are not regulated and would be considered off label for TBI patients.
Summary
Summary

- CAM therapies can be of great value if used appropriately.
- Shy away from treatment options that are excessively expensive and have not been proven to consistently help.
- There needs to be more research in the area of CAM therapy use in the TBI population.
- It is important to keep your healthcare providers informed of all medications, supplements, and CAM interventions you are using.
- Call the Washington Brain Injury Resource Center / BIAWA Resource Center
  - 877-982-4292
THANK YOU!
References

- https://www.mayoclinic.org/tests-procedures/light-therapy/about/pac-20384604