HELPING BRAIN INJURED CLIENTS WITH MUSIC THERAPY

Working with Clients with TBI & Cognitive Disorders

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WORKING WITH A COMPLEX ORGAN

• The brain is a complex organ and when it suffers an injury the results can be devastating.

• People with cognitive disorders or Traumatic Brain Injury (TBI), often have similar troubles in common areas. Some of these include: Memory, engagement in therapy, social interaction, mood fluctuation, and behavioral outbursts.
TERMS

• Brain - is a complex organ, part of CNS (Houston-ground control)

• Cognitive disorders: Alzheimer’s, dementia, ASD, FASD, Intellectual disability

• Traumatic Brain Injury (TBI) caused by external force.

• Acquired Brain Injury (ABI) acquired after birth non-traumatic (stroke, anoxic, hypoxic)

• Memory, executive functioning, engagement, social interactions, mood dysregulation, and behavioral outbursts.
TYPICAL CARE SETTINGS

• Standard Care - Occupational and Physical Therapy
• Hospitals, Care facilities, Other Institutions
• Lacking community music groups/therapy
• All studies indicate MT is effective for this population, no matter what age.
• Maturation appears to be an issue with this population
MUSIC AND THE BRAIN

- According to recent studies, fMRI and PET scans show that to date nothing works the brain like playing music.
- Playing music is considered a full brain workout by engaging practically every area of the brain at once.
- MT also reduces stress, rewires the brain and builds cohesion.
- One of the biggest influences playing music has in the brain, is it increases the volume and activity of the corpus callosum, which is the communicator between the spheres of the brain.
- (Mee-Lee, 2016)
GABRIELLE GIFFORDS

• Perhaps the most compelling case supporting MT is Gabrielle Giffords. She was the congresswoman shot in the left side of head at close range in Arizona in 2011.

• Mrs. Gifford’s woke from her coma unable to speak but it was discovered she could sing.

• Music therapists used melodic intonation, rhythm, harmonics, vibration, and song/singing to rewire her language skills.

• By using melody and music the music therapist was able to shift her brain’s language center from the left to the right hemisphere and she was able to speak after 10 months.

• *(Mee-Lee, 2016)*
LARGEST RECURRING ISSUES

Most of the recurring symptoms with brain-injured clients are:

- Memory
- mood fluctuation
- social interaction
- Engagement
- behavioral outburst (in and out of group setting)
- integrating back into society

These have shown to be the biggest issues with treating this population.
EFFECTS OF MUSIC

• Nostalgia equals deeper connection, thoughts, feelings, emotions.

• Listening – CNS, full body is affected (warm, chills/goosebumps, heart rate, energy)

• Violent lyrics did promote aggression in participants, however positive lyrics did not promote positivity.

• Bring people out of Coma faster

• Time machine (Alive Inside)
MUSIC THERAPY

• Evidence-Based Practice!

• Many different musical instruments drums, percussion, guitar, piano, singing, dancing, clapping hands, stomping feet, anything that makes noise or music.

• Individual or group setting

• Playing music is a full brain workout and helps rewire the brain

• Client music

• Cost effective

• No Medications
DRUMMING

• Oldest form of communication
• Everyone has rhythm, it is in our DNA
• Spiritual in nature
• Many cultures use drumming for healing and celebration
• Drum circles
• Hand drums, shakers, rattles, hands, body, tapping, chanting, singing, bells, and the like.
• Listening to Shaman, Native American, and African drumming
BINAURAL BEATS

- Discovered in 1839 Heinrich Wilhelm Dove a researcher, physicist
- Two tones/frequencies played together, sounds like oscillation (helicopter, fan).
- Frequency of 100hz and 120hz equals 10hz to your brain
5 STATES OF BINAURAL BEATS

- Delta 1-4hz: Deep sleep, pain relief, Anti-aging, Cortisol reduction, Healing, and Access to unconscious mind
- Theta 4-8hz: REM sleep, Deep relaxation/inner peace, Meditation, Creativity, Hypnopompic and Hypa-gogic states (hallucinations, metaphysical experiences)
- Alpha 8-14hx: Relaxed focus, Stress reduction, Positive thinking, Accelerated learning, Flow state (engaging in activity and environment)
5 STATES CONTINUED

- Beta 14-30hz: Focused attention, High level cognition, Critical thinking, Stimulates energy and action/s
- Gamma 30-100hz: High level information processing, Cognitive enhancement, memory/recall, awareness, transcendental states.

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OTHER BINAURAL’S

- Mental health
- Feelings
- Emotions
- Chakra/s
- Substance Use Disorders
- Thoughts/thinking
- Anything you can imagine 1000’s of them
SOLFEGGIO FREQUENCIES

• 396hz – Liberating guilt and fear
• 417hz – Facilitating change
• 528hz – Love frequency, also transformation and miracles
• 639hz – Connection and relationships
• 741hz – Expression and solutions
• 852hz – Spiritual order
• 136hz – Golden tone
FUTURE OF MUSIC

• Mickey Hart, Ethnomusicologist
• Studying dead or damaged brain, heart, and lung cells. Uses the vibration/frequencies of healthy cells to repair damaged or dead cells.
• Seeing results!
• Grateful Dead 50th show
A substantial benefit to MT is that symptoms are decreased without the use of medications.

Critical variables to consider when treating this population.

When a person is able to learn naturally, without medications, the effects can be lasting.

Music in a therapeutic role has been shown to do this.

(Fischer-Terworth & Probst, 2011, Magee, Baker, Daveson, Hitchen, Kennelly, Leung, & Tamplin, 2011)
RESULTS

Studies have found that Music Therapy is effective in increasing participation, attendance, and social interaction, improved memory and calmer, happier clients.

For those who were prone to anger outbursts, a significant reduction was attained.

There are 5.3 million Americans living with disabilities from brain injury, 100,000 of these are Minnesotans (BIA, 2016).
DIFFERENT SUPPORT NEEDED

- Given this large number of cases one can see the need for more support
- A Music (Therapy) Program helps to fill the gap in treating these conditions in other settings
- The use of music therapy can reduce symptoms associated with TBI and cognitive disorders
- Provide cost-effective, non-pharmacological modality that could be implemented in residential, inpatient, outpatient, private, or individual settings
- Community-based program