



Horsin' Around: A Hippotherapy Approach to Occupational Therapy Intervention

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BACKGROUND & PURPOSE

Purpose

Obtain advanced clinical knowledge and implement evidence-based intervention in an unconventional practice area through the following objectives:

- (1) develop specialized skills utilizing hippotherapy as a treatment strategy,
- (2) establish outcome measures to determine effectiveness of hippotherapy treatment in clients with varying conditions, and
- (3) create a mental health-based program for children who have experienced trauma.

Background

- Hippotherapy (HPOT) is a treatment strategy performed by occupational therapists, physical therapists, and speech language pathologists that utilizes equine movement as a therapy tool to provide a multi-sensory, neuromotor, and cognitive system for improved patient outcomes (AHA, 2018).
- HPOT is considered an appropriate treatment strategy within each discipline's scope of practice, separately providing an individualized goal through generating equine movement, selecting appropriate support for seating, and facilitating a variety of positions for client-centered intervention (Angoules et al., 2015; Meregillano, 2004)
- Hippo*, meaning horse, derives from ancient Greek; therefore, hippotherapy means therapy with the assistance of a horse (Granados & Agis, 2011).
- Utilizing hippotherapy in occupational therapy is a growing intervention strategy which has multiple benefits for individuals of varying diagnoses and can provide a positive effect on performance outcomes (Cabiddu et al., 2016; Granados & Agis, 2011; Meregillano, 2004; Jenkins & Reed, 2013).
- HPOT provides physical, emotional, cognitive, and social stimulation to develop capabilities that are typically untapped through conventional treatment (Benda, McGibbon, & Grant, 2003)

METHODS

This experience utilized activities and deliverables to accomplish the following learning objectives:

1. Develop specialized skills utilizing hippotherapy as a treatment strategy
 - a. Demonstrate appropriate knowledge to perform HPOT intervention
 - b. Demonstrate competence in theory-driven, hippotherapy evaluation, and intervention through a written case series
 - c. Demonstrate increased knowledge and understanding of hippotherapy and the role of occupational therapy in HPOT intervention through an AOTA poster submission
2. Establish outcome measures to determine effectiveness of hippotherapy treatment in clients with varying conditions
 - a. Develop parent-reported surveys and interview parents of patients to gain insight on the benefits of hippotherapy for the clients
 - b. Summarize results of parent-reported surveys to demonstrate efficacy of HPOT intervention
3. Create a mental health-based, equine-assisted therapy program for children who have experienced trauma: Healing Hearts with Horses
 - a. Complete a needs assessment of the area of Broward County to determine the appropriateness of the program
 - b. Develop a budget for the program
 - c. Develop goals for the program and provide outcome measures to determine effectiveness of the program once implemented
 - d. Develop a trauma-based program manual and provide materials and handouts for future implementation at the capstone site

THEORETICAL FOUNDATION

Dynamic Systems Theory

The Dynamic Systems theory is an adaptable framework that considers the reciprocal flow of information among the human subsystems (AHA, 2015; Granados & Agis, 2011)

- Human systems influenced through hippotherapy intervention include motor, musculoskeletal, nervous/limbic, respiratory, circulatory, sensory processing, speech/language, and cognition (AHA, 2015)
- Focuses on self-organization through the continuous interaction, adaptation, and changes in response to interrelated dynamics within the person, task, and environment (Haken, 2010)
- Relates to HPOT because movement patterns of the horse facilitate self-organization, involving dynamic interactions among the person, task, and environment (McGibbon & Hael, 2002)

Sensory Integration Theory

The sensory integration theory uses remediation to accommodate and adapt to sensory stimuli in the environment, attained through re-organization of information

- Interprets the equine environment through a multi-system approach including vestibular, proprioceptive, olfactory, interoceptive, visual, auditory, and tactile stimuli (Granados & Agis, 2011)
- Integrates and processes sensory stimuli, apply motor learning principles, and focus the individual's attention on the session (Ayres, 1974)

Model of Human Occupation

MOHO emphasizes the importance of the mind-brain-body connection to illustrate how the environment and internal components interact and affect occupational performance (Keilhofner, 2008)

- Identifies and promotes exploration of internal and external motivations resulting in improved participation and positive effects on psychosocial, cognitive, and mental factors (Ajzenman, Standeven, & Shurtleff, 2013)
- MOHO relates to HPOT due to the horse serving as a motivational factor for clients to increase engagement in therapy

The Diamond Model

The Diamond Model is commonly used in animal-assisted therapies and allows for an inter-dependent relationship among the patient, the animal, the therapist, and the equine specialist in mental health and learning, making up the therapeutic environment (PATH Intl., 2017).

- Creates a positive and confidential environment to facilitate the relationship with the client and the horse for improved learning and focus throughout therapy sessions
- Builds a therapeutic relationship with the horse, child, and therapist to facilitate a sense of responsibility, respect toward the horse, and purpose for improved engagement throughout the session (PATH, Intl., 2017)
- Facilitates appropriate empathetic responses, resilience, self-confidence, non-verbal communication, and improved overall self-concept for the client (Ajzenman et al., 2013)

IMPLICATIONS FOR OCCUPATIONAL THERAPY

The knowledge gained from this experience demonstrated that it is important to differentiate between EAT and hippotherapy when assessing effectiveness of incorporating hippotherapy intervention in occupational therapy practice. Although combining the two therapeutic intervention strategies has been shown to be effective, each strategy plays a specific role in promoting occupational performance. Simply engaging in activities with horses is not considered hippotherapy intervention but is frequently included in hippotherapy research, leading to confusion within the area of intervention. Despite this confusion, this capstone experience provided further insight to the benefits of HPOT intervention through parent-reported questionnaires and case studies.

This capstone experience further demonstrates how the use of HPOT and EAT intervention in occupational therapy can improve occupational outcomes for children and adolescents through provision of physical, cognitive, emotional, sensory, and social experiences. Additionally, it demonstrated the appropriateness of recommending a trauma-based, equine-assisted therapy program involving occupational therapists and psychologists. Lastly, the knowledge gained from the capstone experience further indicates the need to perform specific research on the topic and determine the appropriate intervention strategy to promote improved performance. Utilizing HPOT and EAT strategies in occupational therapy practice can expand the use of meaningful activities, provide a holistic approach to treatment, and improve engagement in therapy, increasing therapy outcomes (Ajzenman et al., 2013).

RESULTS

The results of this capstone experience consist of two case studies and the data obtained from parent-reported questionnaires. The case studies assessed outcomes based on clinical judgement and standardized testing. Results of the case studies determined that HPOT intervention improves client outcomes in sensory processing, social participation, cognitive processing, self-regulation, strength, attention, and overall performance in their daily routine. The purpose of the questionnaires is to provide an outcome measure to determine effectiveness of providing hippotherapy strategies in occupational therapy intervention. Additionally, the results provide insight on the parent understanding and parent viewpoint regarding the benefits of utilizing hippotherapy intervention. Questionnaires were distributed via e-mail through a Google forms sheet for convenience and ease of access to approximately 63 parents or guardians of clients who receive occupational therapy at Bit-By-Bit Medical & Therapeutic Riding Center, resulting in a total of 14 responses. The data obtained provides further insight on the effectiveness of HPOT intervention based on parent-report. The parent reports further supported the benefits associated with participating in HPOT intervention, with some clients experiencing benefits from multiple improvement areas as shown in the table below. Overall, the parent reports determined that there is a relationship between their child's participation in hippotherapy intervention sessions and progress towards their established goals.

Effects of Hippotherapy Intervention Based on Parent-report

Functional Areas	Number of clients showing functional area improvements	Parent-reported Improvement
Muscle tone	5	- "Makes her hips loose." - "Muscle tone" - "Since she has been riding since she was 18 months old it has probably saved her hips from requiring surgery." - "Her spasticity calms down during the sessions but then she gets spastic again when we leave" - "improved duration of walking comfortably."
Attention	4	- "More listening" - "More responsive" - "Focus" - "Child really looks forward to going to Bit-by-Bit and it's probably one of the first times he pays attention to the clock to leave on time!"
Self-esteem/confidence	2	- "Self-confidence" - "Confidence and awareness of his movements. Overall a better outlook about himself and connecting with others."
Strength	3	- "Better trunk and head control." - "Strength in core to help in balance." - "Increased strength in my sister's legs."
Social participation	2	- "Finding ease to communicate with us" - "He is more responsive to telling about his visit after the fact. Like he said the horse's name last night was 'country music.'"
Mood/self-regulation	3	- "Lower anxiety. He gets happy as soon as he is on the horse." - "She began after suffering a terrible loss and was at first resistant to participating. Now looks forward to her sessions." - "My son has been doing this since he was 3 years old in another facility and this setting is the only one that has worked for him. Before we had tried 3 different office settings with no success." - "Great mood when riding and accomplishing tasks"

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